

Hustler Super Mini Z Parts Manual



HUSTLER®

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Hustler Turf Equipment

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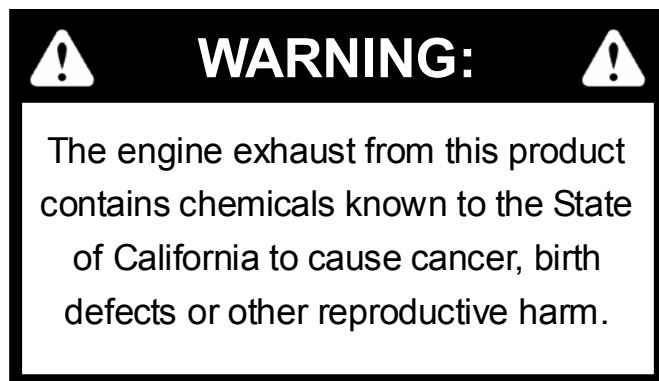
P.O. Box 7000

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Hesston, Kansas

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67062-2097



IMPORTANT: This engine is not equipped with a spark arrester muffler. It is a violation of California Public Resource Code Section 4442 to use or operate this engine on any forest-covered, brush-covered, or grass-covered unimproved land. Other states or federal areas may have similar laws.

This spark ignition system complies with Canadian ICES-002.

The Engine Owner's Manual provides information regarding the U.S. Environmental Protection Agency (EPA) and the California Emission Control Regulation of emission systems, maintenance and warranty.

Keep Engine Owner's Manual with your unit. Should the Engine Owner's Manual become damaged or illegible, replace immediately. Replacements may be ordered per the information found in the Product Information section of the owner's manual.

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Chapter 1

General Information

*This Manual covers Hustler Super Mini Z 23/44 model **927269**, Super Mini Z 25/52 model **927277**, Super Mini Z 24/52 model **927285**, and Super Mini Z 27/52 model **927533**.*

Frequently Ordered Parts

PART NO.	DESCRIPTION
027912	Lubrizol 7 oz. Bottle
027920	Lubrizol 10 oz. Bottle
783936	Hydraulic Oil Filter
786533	Pump Drive Belt
791335	44" Deck Belt
789388	52" Deck Belt
785626	Honda Fuel Filter
068478	Kawasaki Fuel Filter
785261	Main Air Filter
785279	Safety Air Filter Element
785634	Honda Engine Oil Filter
772079	Kawasaki Engine Oil Filter
747303	Kohler Engine Oil Filter
784256	16" X 2.5" X 0.204 .631 Dia. Hole Blade
783753	18" X 2.5" X 0.204 .631 Dia. Hole Blade

Service Literature

PART NO.	DESCRIPTION
302638	Hustler Mini Z Owner's Manual
778423	Kawasaki 19/23HP Engine Manual
785642	Honda 18/20/24HP Engine Manual
742684	Kohler Engine Manual

***Note:** When ordering parts, you must use the part number as shown for each part, not the index number. Always give the model and serial number to your parts and service representative.*

***Note:** Items sold in bulk such as seals and hoses are sold by the foot.*

Using this manual

Illustrations used were current at the time of printing, but subsequent production changes may cause your machine to vary slightly in detail. Excel Industries, Inc. reserves the right to redesign and change the machine as deemed neces-

sary, without notification. If a change has been made to your machine which is not reflected in this parts manual, see your Hustler dealer for current information and parts.

Hardware Description Codes & Abbreviations

The following codes are used throughout this parts manual. Refer to this list when ordering parts.

<i>ABBREVIATION</i>	<i>DESCRIPTION</i>
----------------------------	---------------------------

CB	Carriage Bolt
CE	Clevis Pin
CP	Cotter Pin
CS	Cap Screw
CW	Cup Washer
FDRW	Fender Washer
FW	Flat Washer
HX	Hex Head
LW	Lock Washer
MB	Machine Bushing
MS	Machine Screw
NT	Nut
SC	Self Tapping Cap Screw
SH	Socket Head
SB	Shoulder Bolt
SS	Set Screw
OD	Outside Diameter
ID	Inside Diameter

Standard Torques

The following chart lists the standard torque values for the threaded fasteners found in this manual. Torque all cap screws, nuts and set screws to these values unless a different torque is shown in the Notes section next to the fastener

<i>SIZE</i>	<i>FT-LBS</i>	<i>NM</i>	<i>SIZE</i>	<i>FT-LBS</i>	<i>NM</i>
.250	8.2	11.1	M3	1	1.3
.312	17	23	M4	2.2	3
.375	30	40	M5	4.5	6.1
.438	48	65	M6	7.7	10.4
.500	73	99	M8	18.5	25
.562	105	143	M10	37	50
.625	145	200	M12	64	87
.750	260	350	M16	160	215
.875	420	565	M20	320	435
1.00	625	850	M24	555	750

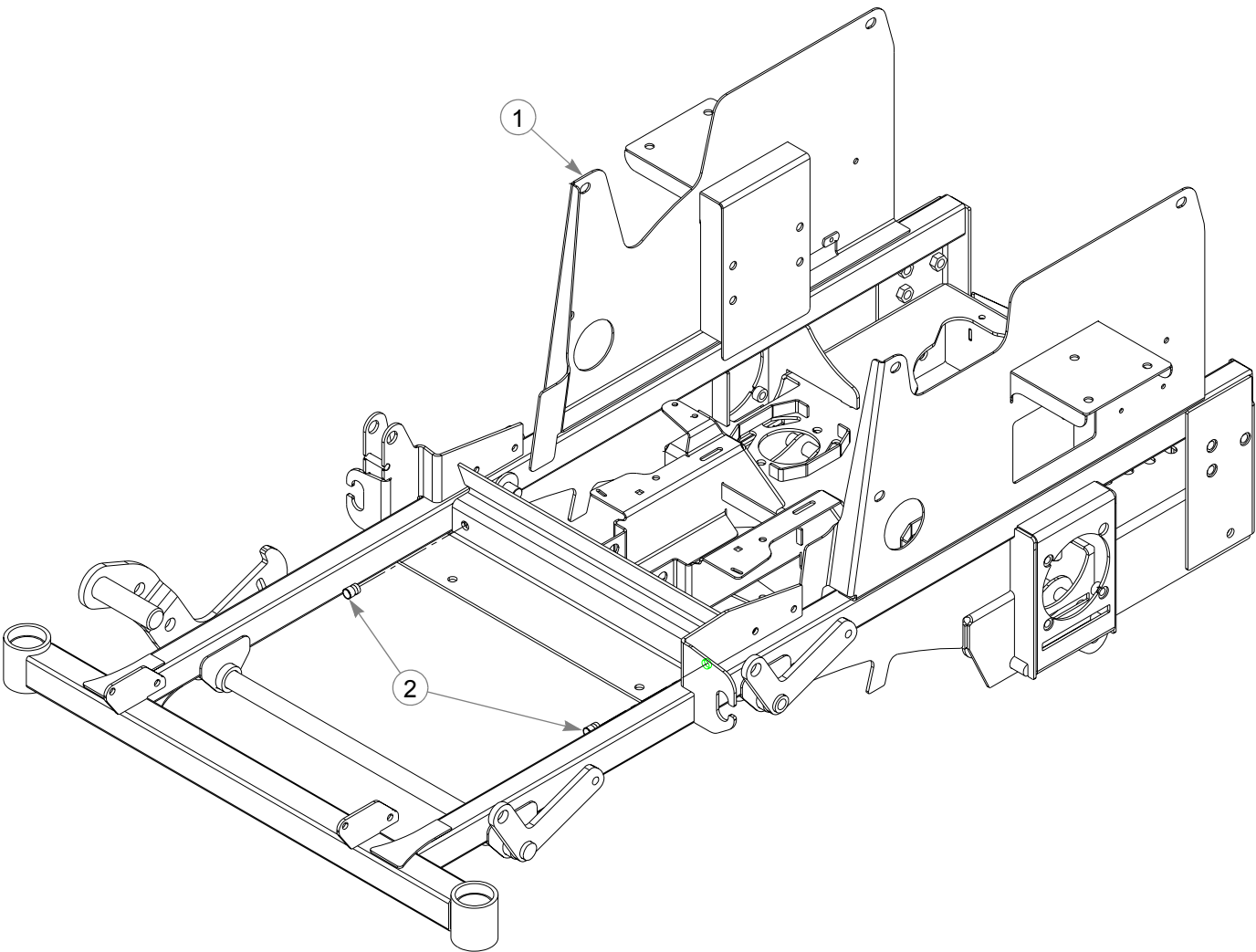
NOTE:

Loctite® 592 to be used on all pipe threads.
Lubricate all grease zerks.

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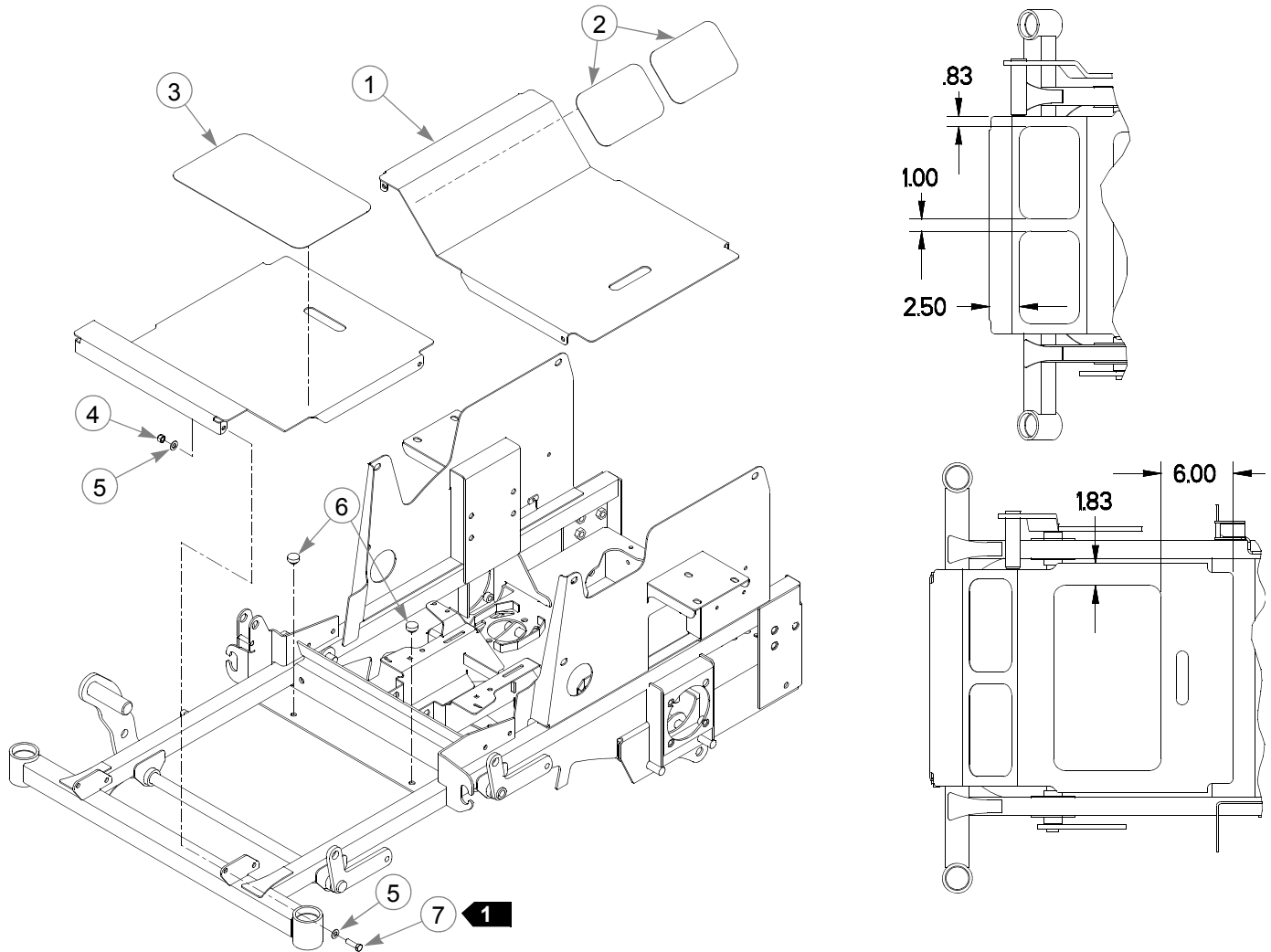
Rivet-nut Installation



INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY.	DESCRIPTION
1	546630	387936	1	52" MINI Z FRAME
	546648	392449		44" MINI Z FRAME
2	N/A	808493	2	3/8-16 THREAD NUTSERT

NOTES:

Footrest Assembly



INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY.	DESCRIPTION
1	388884	388884	1	MINI Z FLOOR PLATE
2	785485	785485	2	UPPER STEP TREAD
3	785493	785493	1	LOWER STEP TREAD
4	086660	086660	2	NT .375-16 HX LK NY
5	767954	767954	4	FW .406 X .812 X .060 SAE HD ZN
6	781880	781880	2	RUBBER BUMPER
7	052860	052860	2	CS .375-16 X 1.25 HX G5 ZNYC

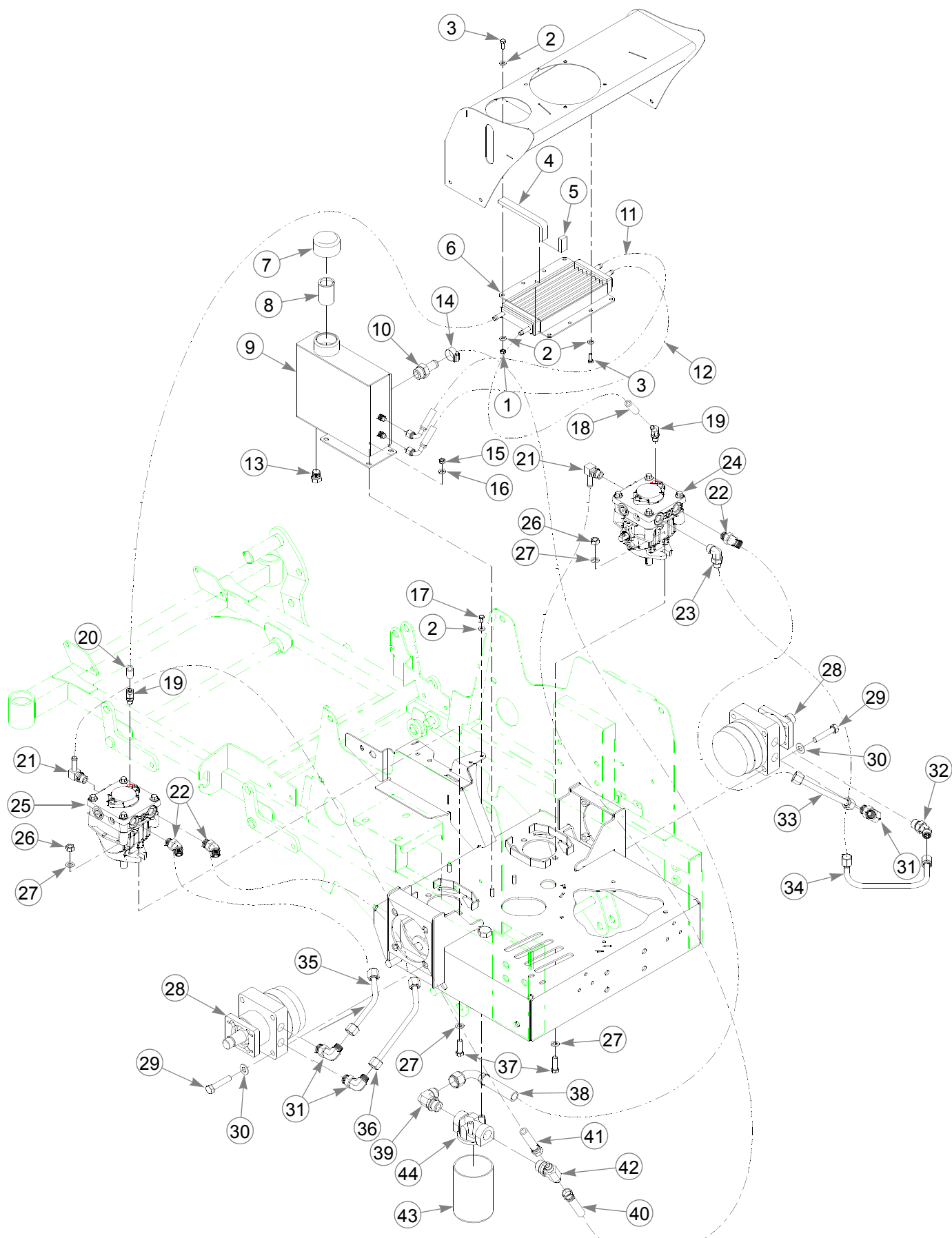
NOTES:

1. Do not tighten, Item 1 (388884 Mini Z Floor Plate) must be able to pivot on these bolts.

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Hydraulic System Installation



Hydraulic System Installation

INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY.	DESCRIPTION
1	068551	068551	2	NT .250-20 HX NL ZNYC
2	768515	768515	8	FW .281 X .625 X .051/.080 HD ZNYC
3	055939	055939	4	CS .250-20 X .750 HX G5 ZNYC
4	713198	713198	2	SEAL 3/8 X 3/4 X 7¼" LONG
5	713198	713198	2	SEAL 3/8 X 3/4 X 1½" LONG
6	787192	787192	1	HYDRAULIC OIL COOLER
7	032763	032763	1	BREATHER CAP
8	032771	032771	1	STRAINER
9	368803	368803	1	HYDRAULIC OIL RESERVOIR
3 10	783985	N/A	1	FITTING, STR ORB-BEADED TUBE
3 11	787564	N/A	1	MINI-Z CASE DRAIN HOSE ASSEMBLY
3 12	787572	N/A	1	MINI-Z CASE DRAIN HOSE ASSEMBLY
3 13	781658	N/A	1	FITTING, STR-8MORB/HEX PLUG
14	700484	700484	1	HOSE CLAMP
15	034272	034272	3	NT .312-18 HX G5 ZNYC
16	768523	768523	3	FW .343 X .687 X .051/.080 HD ZNYC
17	055947	055947	2	CS .250-20 X .500 HX G5 ZNYC
3 18	787580	N/A	1	HOSE ASSEMBLY, PUMP TO COOLER SMZ
3 19	784108	N/A	2	FITTING, 6 BEADED TUBE-ORB 45
3 20	787598	N/A	1	HOSE ASSEMBLY, PUMP TO COOLER SMZ
3 21	784082	N/A	2	FITTING, 8 BEADED TUBE-ORB 90
22	781559	N/A	3	FITTING, 45-8MORB/-8MSL
3 23	781542	N/A	1	FITTING, 90-8MORB/-8MSL
24	786368	786368	1	PUMP, HYDRO-GEAR BDP16A-306
25	786350	786350	1	PUMP, HYDRO-GEAR BDP16A-409
26	041707	041707	4	NT .437-14 HX G5 ZNYC
27	704742	704742	8	FW .453 X .812 X .060 ZNYC
28	791152	791152	2	WHITE MOTOR CE14
29	008573	008573	8	CS .500-13 X 2.500 HX G5 ZNYC
30	767962	767962	8	FW .531 X 1.063 X .090 SAE HD ZN
3 31	781526	N/A	3	FITTING, 90-10MORB/-8MSL
3 32	787440	N/A	1	FITTING, 45-10MORB/-8MSL
3 33	791061	N/A	1	HYDRO TUBE, SMZ-RH SIDE-RP/BM
3 34	795278	N/A	1	HYDRO TUBE, SMZ RH SIDE LP/TM
3 35	791103	N/A	1	HYDRO TUBE SMZ LH SIDE- LP/TM
3 36	791087	N/A	1	HYDRO TUBE SMZ LH SIDE-RP/BM
37	705186	705186	4	CS .437-14 X 1.375 HX G5 ZNYC
3 38	787622	N/A	1	HOSE ASSEMBLY, RESERVOIR TO FILTER SMZ
3 39	787457	N/A	1	FITTING, 90-12MORB/-12MJIC
3 40	791814	N/A	1	HOSE ASSY FILTR TO RH PUMP SMZ
3 41	787606	N/A	1	HOSE ASSEMBLY, FILTER TO PUMP SMZ
3 42	788174	N/A	1	FITTING, T -8MJIC/8MJIC/12MORB
43	783936	783936	1	FILTER ELEMENT
44	783928	783928	1	FILTER HEAD ZAF SERIES

NOTES:

1. Add 3.5 oz. Lubrizol® (027912) to new system or when hydraulic oil is changed (see Owner's Manual).
2. Hydraulic system capacity is 5 US quarts. Fill reservoir to within 1" of top of Item 8 (032771 Strainer).
3. Included in Hydro Kit (791160).

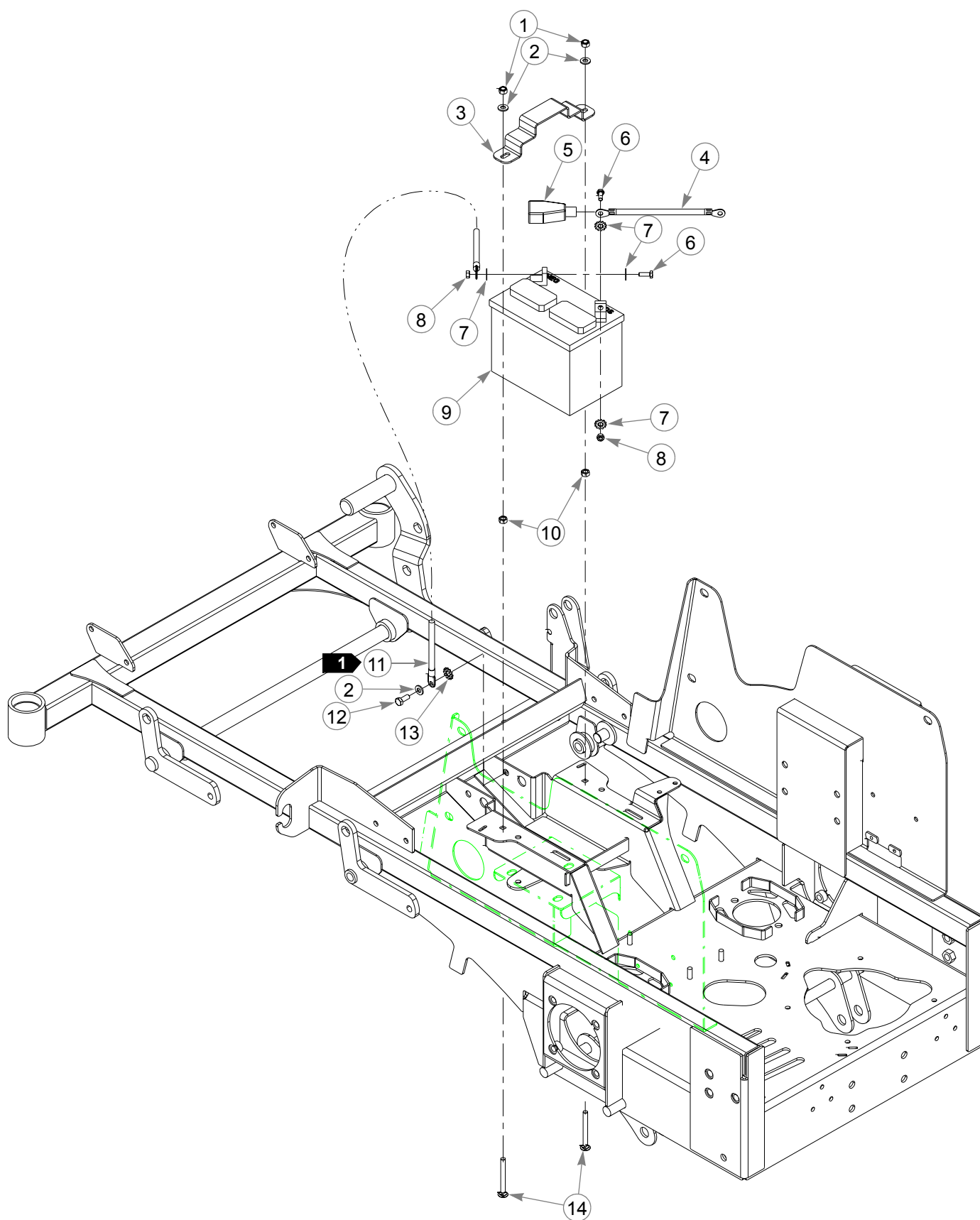
Note:

Seal Kit for hydraulic pump; 788133 (BDP16 Overhaul Seal Kit)

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Battery Installation



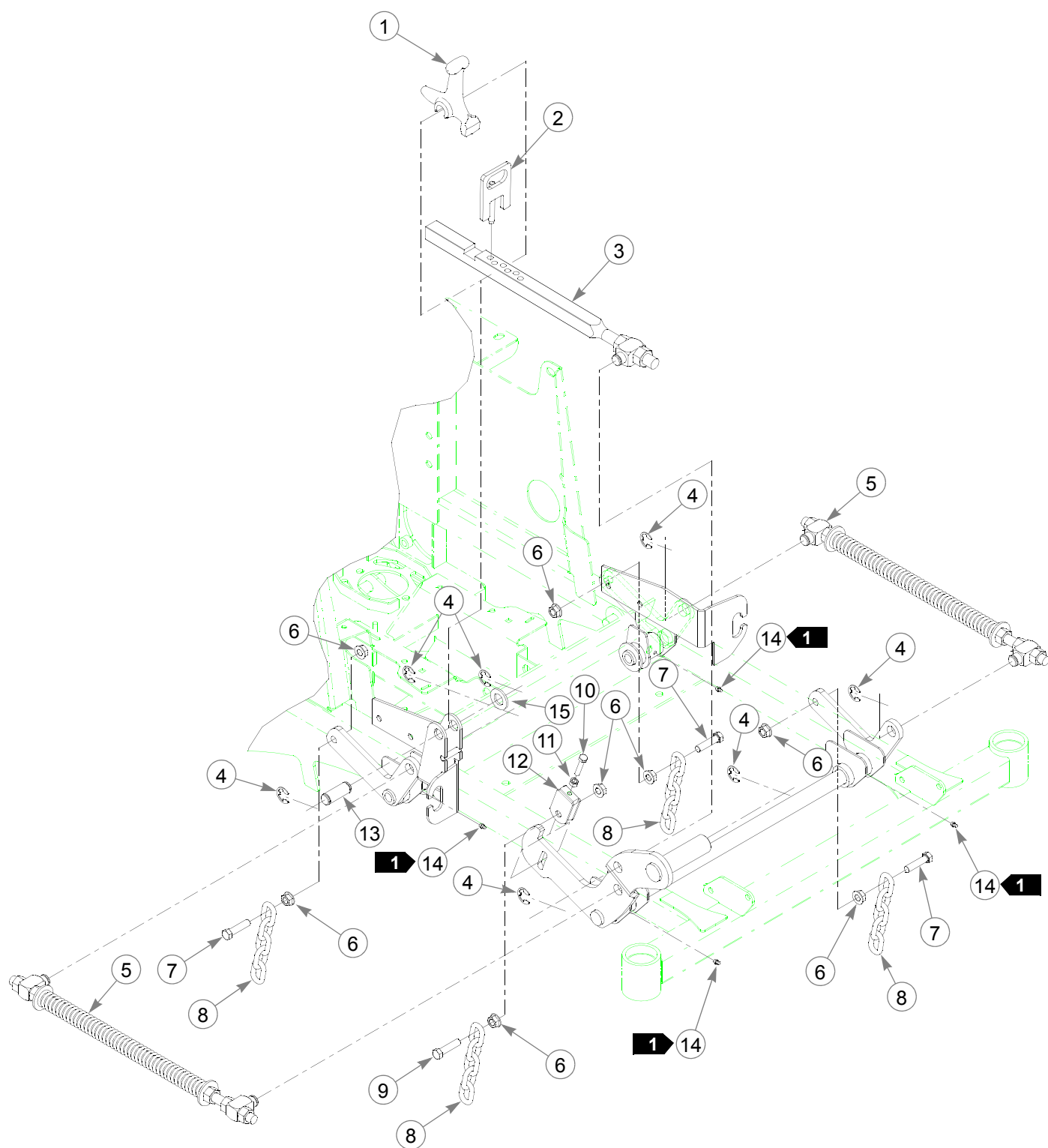
Battery Installation

INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY.	DESCRIPTION
1	058776	058776	2	NT .312-18 HX NL ZNYC
2	768523	768523	3	FW .343 X .687 X .051/.080 HD ZNYC
3	348417	348417	1	BATTERY CLAMP STRAP
4	785063	785063	1	POSITIVE BATTERY CABLE
5	771428	771428	1	RED BATTERY CABLE BOOT
6	055939	055939	2	CS .250-20 X .750 HX G5 ZNYC
7	029868	029868	4	LW .250 INT-EXT TOOTH ZNYC
8	024927	024927	2	NT .250-20 HX GR.5 ZNYC
9	740696	740696	1	BATTERY
10	034272	034272	2	NT .312-18 HX G5 ZNYC
11	768820	768820	1	BATTERY GROUND CABLE
12	034280	034280	1	CS .312-18 X .750 HX G5 ZNYC
13	029876	029876	1	LW .312 INT-EXT TOOTH ZNYC
14	779850	779850	2	CB .312-18 X 3.00 FUL ZN

NOTES:

1. When performing maintenance, disconnect battery ground cable and black wire of harness and do not reconnect to battery until engine is ready to be started (See owners manual).

Deck Lift Assembly



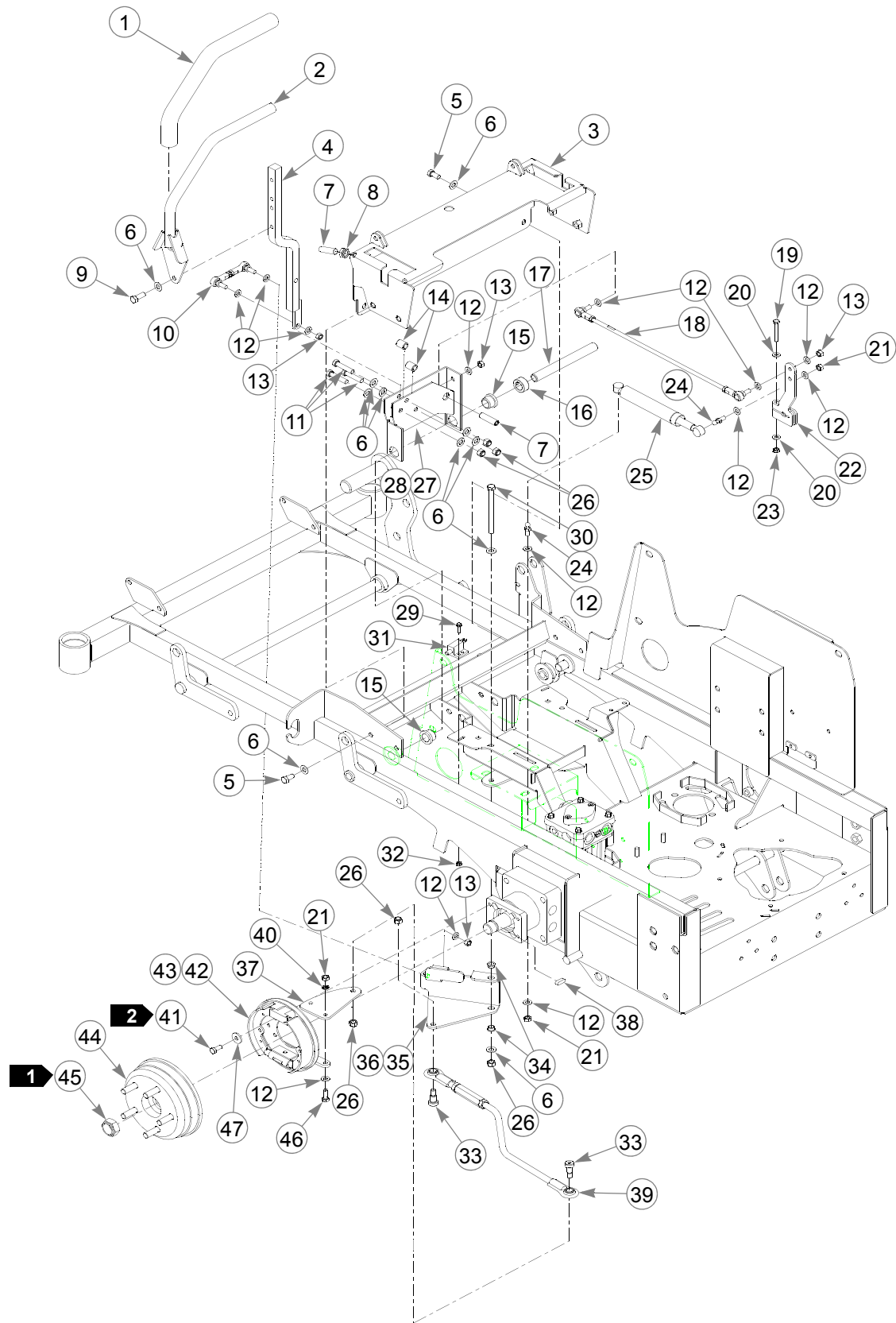
Deck Lift Assembly

INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY.	DESCRIPTION
1	348318	348318	1	STOP HANDLE
2	348284	348284	1	HEIGHT ADJUSTMENT STOP
3	784488	784488	1	DECK LIFT INDICATOR
4	781294	781294	7	CLIP E, 1.00 X.625X .050
5	782995	782995	2	DECK LIFT SPRING
6	704643	704643	8	NT .437-14 HX FLG ZN
7	055749	055749	3	CS .437-14 X 1.750 HX G5 ZNYC
8	348391	348391	4	DECK LIFT CHAIN
9	781831	781831	1	CS .437-14 X 1.750 FULTH G5 ZNYC
10	756270	756270	1	CS .312-18 X 1.50 FLTHR GR5 ZNYC
11	034272	034272	1	NT .312-18 HX G5 ZNYC
12	348458	348458	1	DECK LEVELER YOKE
13	781229	781229	1	CE .750X2.25 X1.75 HEADLESS
14	015495	015495	4	STRAIGHT GREASE FITTING
15	784686	784686	1	FW .812 X 1.469 X .134 THK ZNYC

NOTES:

1. Apply grease at zerks (see owner's manual).

Steering and Brake Assembly



Steering and Brake Assembly

INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY.	DESCRIPTION
	1	781260	2	STEERING BAR GRIP
5	2	368704	2	STEERING BAR
	3	367128	1	CONTROL PANEL
	4	368670	2	STEERING ARM MOUNT
	5	055822	6	CS .375-16 X .750 HX G5 ZNYC
	6	767954	26	FW .406 X .812 X .060 SAE HD ZN
	7	781716	4	SS .500-13 X 1.75 SH ZN
	8	053199	2	NT .500-13 HX JAM ZNYC
	9	036244	4	CS .375-16 X 1.00 HX G5 ZNYC
	10	781583	2	BRAKE ROD ASSEMBLY
	11	705178	6	CS .375-16 X1.75 HX G5 ZNYC
	12	768523	34	FW .343 X .687 X .051/.080 HD ZNYC
	13	041152	8	NT .312-24 HX ZNYC
	14	348862	4	STEERLEVER BUSHING
	15	781153	4	.750 X 1.00 X .50 PLASTIC BUSHING
	16	784439	2	LOCK COLLAR
	17	368910	1	STEERING CENTER PIVOT TUBE
	18	781286	2	PUMP ROD ADJUSTER ASSEMBLY
	19	704163	2	CS .250-20 X 2.00 HX G5 ZNYC
	20	768515	4	FW .281X.625X.051/.080HD ZNYC
	21	034272	8	NT .312-18 HX G5 ZNYC
	22	369660	2	PUMP ARM
	23	068551	2	NT .250-20 HX NL ZNYC
	24	781922	4	DAMPER BALL STUD
	25	600221	2	CENTERING DAMPENER
6		783696	2	CENTERING DAMPENER
	26	086660	12	NT .375-16 HX LK NY
	27	367573	1	LH STEERLEVER SUPPORT
	28	367565	1	RH STEERLEVER SUPPORT (NOT SHOWN)
	29	063198	4	CS 10-24 X .750 HXFLK ZNYC
	30	782979	2	CS .375-16 X 4.75 HX G5 ZNYC
	31	781211	2	PUSH BUTTON SWITCH
	32	059832	4	NT #10-24 HX NL ZN
	33	060541	4	SB .500 X .625 SH .375-16 ZN
	34	765339	4	INGUS#MFI-0608_05 BUSHING
	35	302943	1	LEFT BRAKE PIVOT ARM
	36	302935	1	RIGHT BRAKE PIVOT ARM (NOT SHOWN)
	37	367169	2	BRAKE LEVER EXTENSION
	38	783852	2	KEY
	39	791327	2	BRAKE LINKAGE ASSEMBLY
	40	017004	4	LW .312 MED SPRING ZNYC
	41	048876	8	CS .312-18 X .750 HX G8 ZNYC
3	42	783118	1	BRAKE ASSEMBLY
4	43	783126	1	BRAKE ASSEMBLY (NOT SHOWN)
	44	782953	2	HUB ASSEMBLY
	45	783845	2	NUT
	46	064014	4	CS .312-18 X .875 HX G5 ZNYC
	47	712927	8	FW .344 X 1.00 X .12 HRD ZN

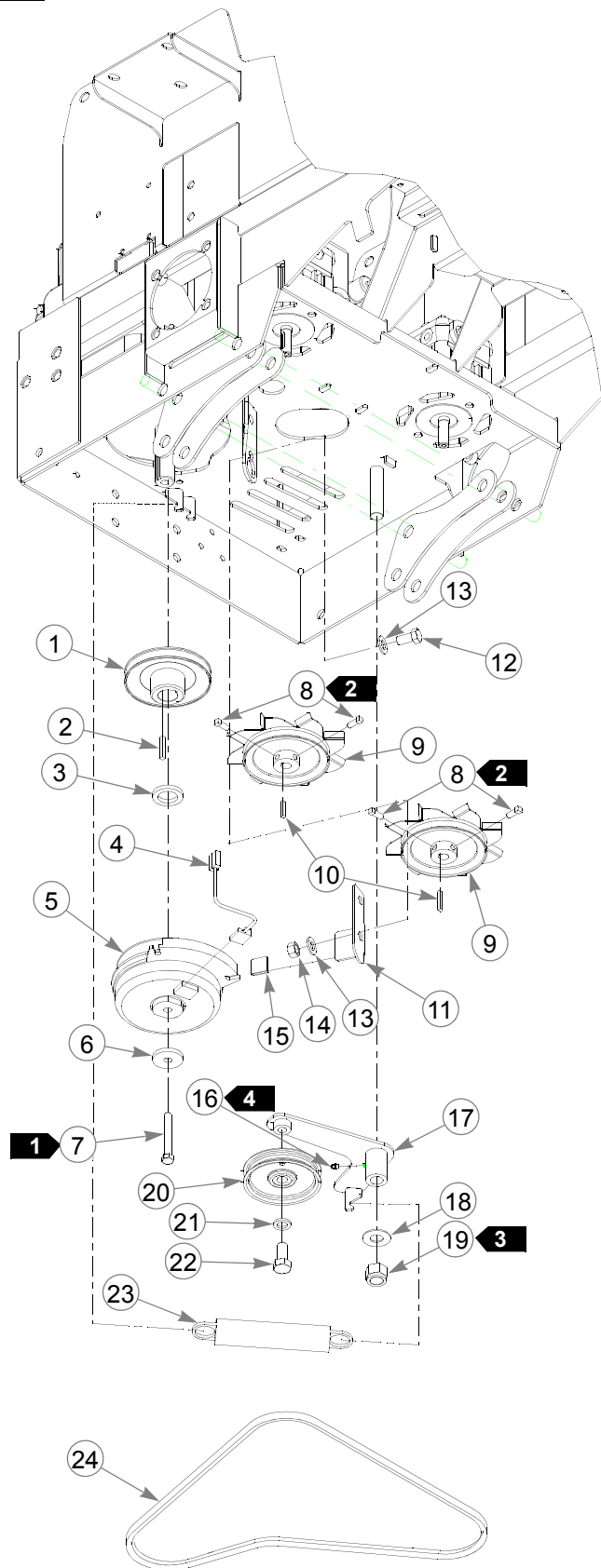
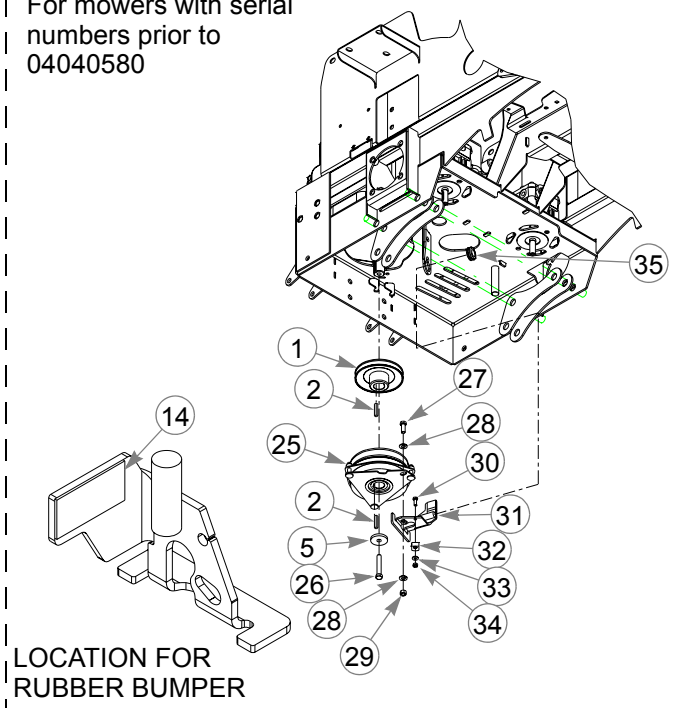
NOTES:

1. Torque to 280-310 ft.-lbs. Included with wheel motor.
2. Torque brake assembly mounting bolts to 24 ft.-lbs.
3. 783118 used on left wheel.
4. 783126 used on right wheel.
5. Includes Item 1 (781260 Steering Bar Grip).
6. Used on mowers with serial numbers prior to 06071186.

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Pump Belt and Pulley Installation

For mowers with serial numbers prior to 04040580



Pump Belt and Pulley Installation

INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY	DESCRIPTION
1	783761	783761	1	SUPER Z SINGLE PULLEY
2	212076	212076	1	KEY 1/4 SQ X 1.50 LONG
3	797654	797654	1	FW 1.156 X 1.750 X .250 ZY
4	791251	791251	1	CLUTCH PIGTAIL HARNESS (DIODE)
5	787366	787366	1	WARNER Z CLUTCH
6	783829	783829	1	FW .460X 1.750X .250 ZNYC
7	785659	785659	1	CS .437-20 X 2.50 HX G5 ZNYC
8	083196	083196	4	SS .312-18 X .750 SQ-HD ZN
9	782466	782466	2	PULLEY & FAN BDP-21
10	768127	768127	2	KEY 5MM X 30MM RADIUS ENDS
11	366765	366765	1	CLUTCH ANCHOR ANGLE
12	016527	016527	2	CS .500-13 X 1.00 HX G5 ZNYC
13	767962	767962	4	FW .531 X 1.063 X .090 SAE HD ZN
14	008193	008193	2	NT .500-13 HX G5 ZNYC
15	784918	784918	1	RUBBER BUMPER
16	015495	015495	1	STRAIGHT GREASE FITTING
17	368860	368860	1	PUMP IDLER ARM
18	025296	025296	1	FW .760 X 1.625 X .08 ZN
19	061101	061101	1	NT .750-10 HX NL ZN
20	786848	786848	1	IDLER PULLEY
21	028118	028118	1	FW .62 X 1.00 X .134 ZN
22	781872	781872	1	CS .625-11 X 1.25 HX G5 ZN
23	781302	781302	1	IDLER SPRING
24	786533	786533	1	A-SEC PUMP IDLER BELT
25	787408	N/A	1	CLUTCH
26	778217	N/A	1	CS .437-20 X 2.25 G5 ZNYC
27	036244	N/A	1	CS .375-16 X 1.000 HX G5 ZN
28	767954	N/A	2	FW .406 X .812 X .060 SAE HD ZN
29	054502	N/A	1	NT .375-16 HX GRD 5 ZN
30	055939	N/A	1	CS .250-20 X .750 HX G5 ZN
31	362392	N/A	1	CLUTCH ANCHOR BRACKET
32	778738	N/A	1	.312 WIRING CLAMP
33	768515	N/A	1	FW .281 X .625 X .051/.080 HD ZN/YL
34	024927	N/A	1	NT .250-20 HX GR.5 ZN
	748681	N/A	1	GM .75 X 1.35 X 1.06 X .18 GROMMET

NOTES:

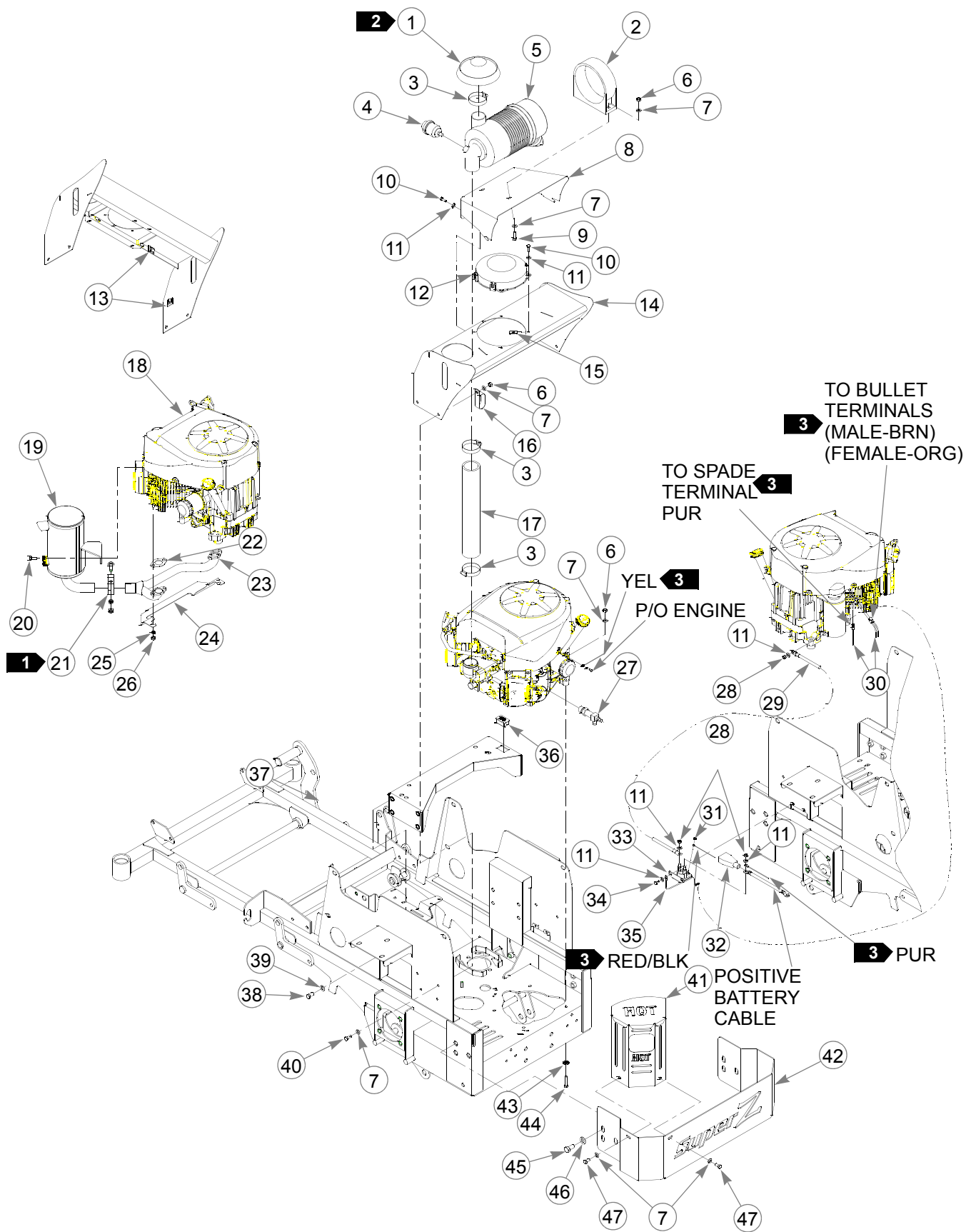
1. Torque to 45-48 ft.-lbs.
2. Torque to 12-15 ft.-lbs.
3. Do not torque Item 18 (NT .750-10 HX NL ZN), Item 16 (368860 Pump Idler Arm) should pivot freely.
4. Apply grease at zerks (see owner's manual).
5. **Electric clutch burnishing procedure:** After installing a new clutch, it is important to burnish the clutch to insure maximum deck clutch life. In an open area with no bystanders, set the engine speed to half throttle.

Cycle the deck clutch on for 15 seconds, and then off for 15 seconds.
Repeat this operation 10 times - it will require about 5 minutes to complete.

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Kawasaki Engine Installation



Kawasaki Engine Installation

INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY.	DESCRIPTION
1	786673	786673	1	DONALDSON AIR CLEANER CAP
2	785741	785741	1	MOUNTING BAND
3	057661	057661	2	HOSE CLAMP
4	788943	788943	1	AIR FILTER INDICATOR
5	782763	782763	1	AIR CLEANER
6	034272	034272	10	NT .312-18 HX G5 ZNYC
7	768523	768523	18	FW .343 X .687 X .051/.080HD ZNYC
8	370270	370270	1	MINI Z DEFLECTOR SCOOP
9	036236	036236	2	CS .312-18 X 1.00 HX G5 ZNYC
10	055939	055939	6	CS .250-20 X .75 HX G5 ZNYC
11	768515	768515	11	FW .281 X .625 X .051/.080HD ZNYC
12	783837	783837	1	ELECTRIC COOLER FAN
13	047654	047654	2	CLIP
14	369470	369470	1	SUPER MINI Z HOOD
15	044818	044818	4	CN ZN TIN-C7343-1420
16	045088	045088	1	HOSE CLAMP 1"
17	786038	786038	1	REMOTE AIR FILTER HOSE
18	777656	777656	1	KAWASAKI 23 HP ENGINE (FH680V, 3600 RPM) (USED ON 927269)
	782318	782318	1	KAWASAKI 25 HP ENGINE (FH601V, 3600 RPM) (USED ON 927277)
19	786863	786863	1	19/23/25 KAWASAKI MUFFLER
20	720177	720177	2	CS M 8-1.25 X 20 10.9 HXFLZNYC
21	786566	786566	1	1.375" MUFFLER CLAMP
22	780841	780841	2	KAW (23) MUFFLER GASKET
23	786871	786871	1	KAWASAKI MUFFLER MANIFOLD
24	360693	360693	1	HEAT SHIELD
25	017004	017004	4	LW .312 MED SPRING ZNYC
26	782664	782664	4	NT M8-1.25 HX STAINLESS STEEL
7 27	796524	796524	1	M20 X 2.5 OIL DRAIN VALVE
28	024927	024927	3	NT .250-20 HX GR.5 ZNYC
29	768820	768820	1	BATTERY CABLE
30	783894	783894	1	TRACTOR WIRE HARNESS
31	044255	044255	1	NT #10-32 HX ZN
32	771428	771428	1	RED BATTERY CABLE BOOT
33	030817	030817	1	STARTER SOLENOID
34	055947	055947	2	CS .250-20 X .50 HX G5 ZNYC
35	792192	792192	1	STARTER RELAY GROUND WIRE
36	769166	769166	1	HOUR METER
37	388892	388892	1	SEAT SUPPORT CROSSMEMBER
38	055822	055822	8	CS .375-16 X .750 HX G5 ZNYC
39	767954	767954	8	FW .406 X .812 X .060 SAE HD ZN
40	034280	034280	4	CS .312-18 X .75 HX G5 ZNYC
41	369132	369132	1	MUFFLER GUARD
42	300061	300061	1	ENGINE GUARD
43	029876	029876	4	LW .312 INT-EXT TOOTH ZNYC
44	052837	052837	4	CS .312-18 X1.50 HX G5 ZNYC
45	016527	016527	6	CS .500-13 X1.00 HX G5 ZNYC
46	767962	767962	6	FW .531 X 1.063 X.090 SAE HD ZN
47	064006	064006	2	CS .312-18 X .625 HX G5 ZNYC

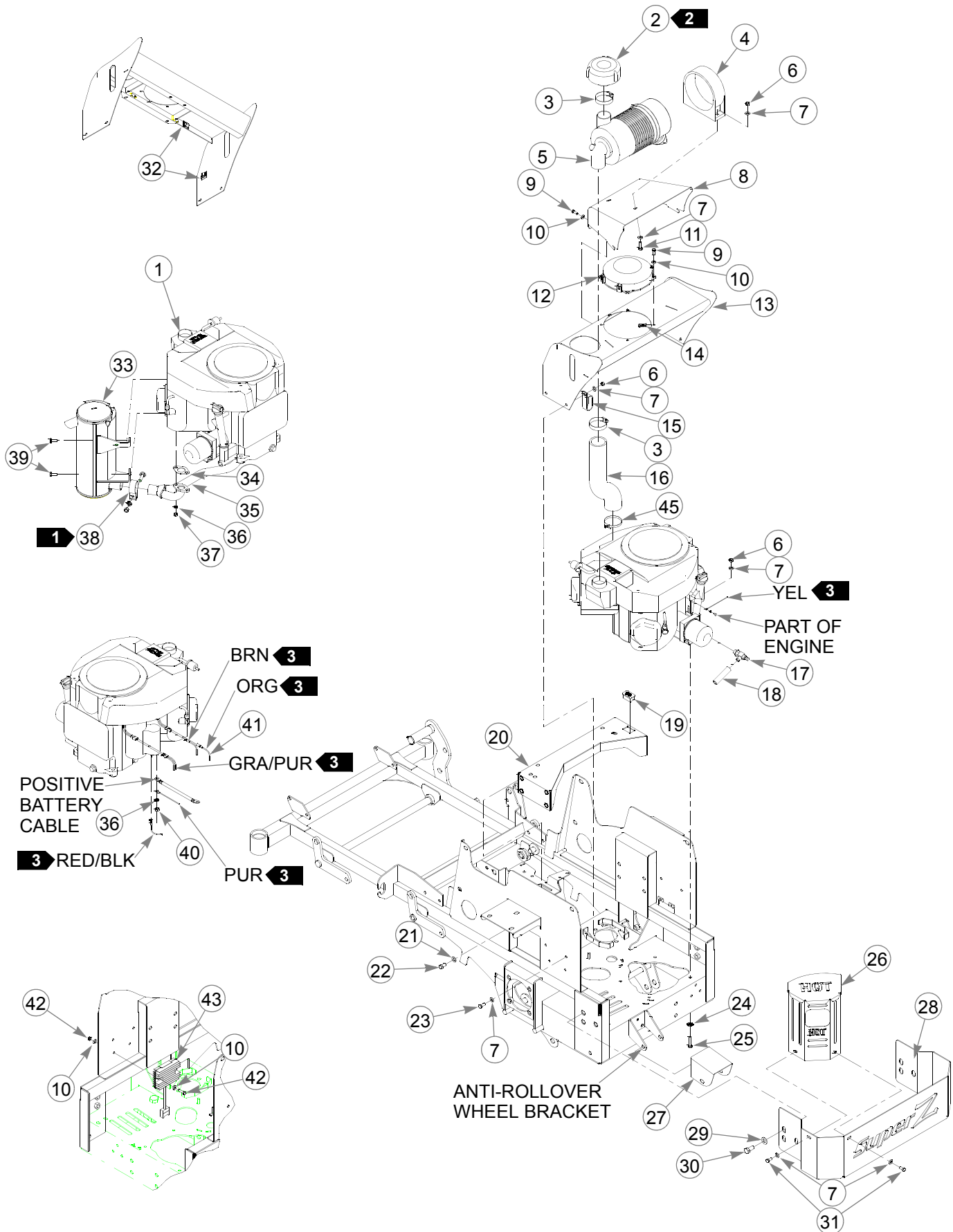
NOTES:

1. Includes mounting hardware.
2. Includes one (1) of Item 3 (057661 Hose Clamp).
3. Part of Item 30 (783894 Tractor Wire Harness).
4. Engine oil capacity; 2 US quarts.
5. Engine RPM to be set at 3600±50.
6. When installing lower hose clamp on air cleaner hose, install as low as possible (against carburetor inlet).
7. Used on mowers with serial numbers 05031839 and higher. This part replaces "O" ring , drain extension, and drain plug, on mowers with serial numbers prior to 05031839,
8. Air filter service parts:

785261	MAIN AIR FILTER ELEMENT
763318	VACUATOR VALVE

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Honda Engine Installation



Honda Engine Installation

INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY.	DESCRIPTION
1	785014	785014	1	HONDA 24 HP ENGINE (USED ON 927285)
2	775353	775353	1	CENTRIFICAL AIR CLEANER CAP
3	057661	057661	2	HOSE CLAMP
4	785741	785741	1	MOUNTING BAND
5	782763	782763	1	AIR CLEANER
6	034272	034272	10	NT .312-18 HX G5 ZNYC
7	768523	768523	18	FW .343 X .687 X .051/.080HD ZNYC
8	370270	370270	1	MINI Z DEFLECTOR SCOOP
9	055939	055939	6	CS .250-20 X .750 HX G5 ZNYC
10	768515	768515	10	FW .281 X.625 X .051/.080 HD ZNYC
11	036236	036236	2	CS .312-18 X 1.00 HX G5 ZNYC
12	783837	783837	1	ELECTRIC COOLER FAN
13	369470	369470	1	SUPER MINI Z HOOD
14	044818	044818	4	CN ZN TIN-C7343-1420
15	045088	045088	1	HOSE CLAMP 1"
16	785675	785675	1	REMOTE AIR FILTER HOSE
17	787689	787689	1	HONDA OIL DRAIN VALVE
18	787713	787713	1	0.50" LOW PRESSURE HOSE, 3.00" LONG
19	769166	769166	1	HOUR METER
20	388892	388892	1	SEAT SUPPORT CROSSMEMBER
21	767954	767954	8	FW .406 X .812 X .060 SAE HD ZN
22	055822	055822	8	CS .375-16 X .75 HX G5 ZNYC
23	034280	034280	4	CS .312-18 X .75 HX G5 ZNYC
24	029876	029876	4	LW .312 INT-EXT TOOTH ZNYC
25	052837	052837	4	CS .312-18 X1.50 HX G5 ZNYC
26	369132	369132	1	MUFFLER GUARD
27	377994	377994	1	MMZ ROLLER HEAT SHIELD
28	300061	300061	1	REAR BUMPER ENGINE GUARD
29	767962	767962	6	FW .531 X 1.063 X.090 SAE HD ZN
30	016527	016527	6	CS .500-13 X1.00 HX G5 ZNYC
31	064006	064006	2	CS .312-18 X .625 HX G5 ZNYC
32	047654	047654	2	CLIP
33	784843	784843	1	HONDA MUFFLER
34	785543	N/A	2	HONDA MUFFLER GASKET
35	784959	784959	1	MUFFLER MANIFOLD
36	017004	N/A	5	LW .312 MED SPRING ZNYC
37	782664	N/A	4	NT M8-1.25 HX STAINLESS STEEL
38	785378	785378	1	1.50" MUFFLER CLAMP
39	720177	720177	2	CS M 8-1.25 X 20 10.9 HXFLZNYC
40	077545	N/A	1	NT M8-1.25 10 HX ZNYC
41	787200	787200	1	TRACTOR WIRE HARNESS
42	056077	056077	2	CS .250-20 X 1.00 HX G5 ZNYC
43	785477	N/A	1	HONDA 20 AMP RECTIFIER
44	024927	024927	2	NT .250-20 HX GR.5 ZNYC
45	797670	797670	1	HONDA AIRCLEANER HOSE CLAMP

NOTES:

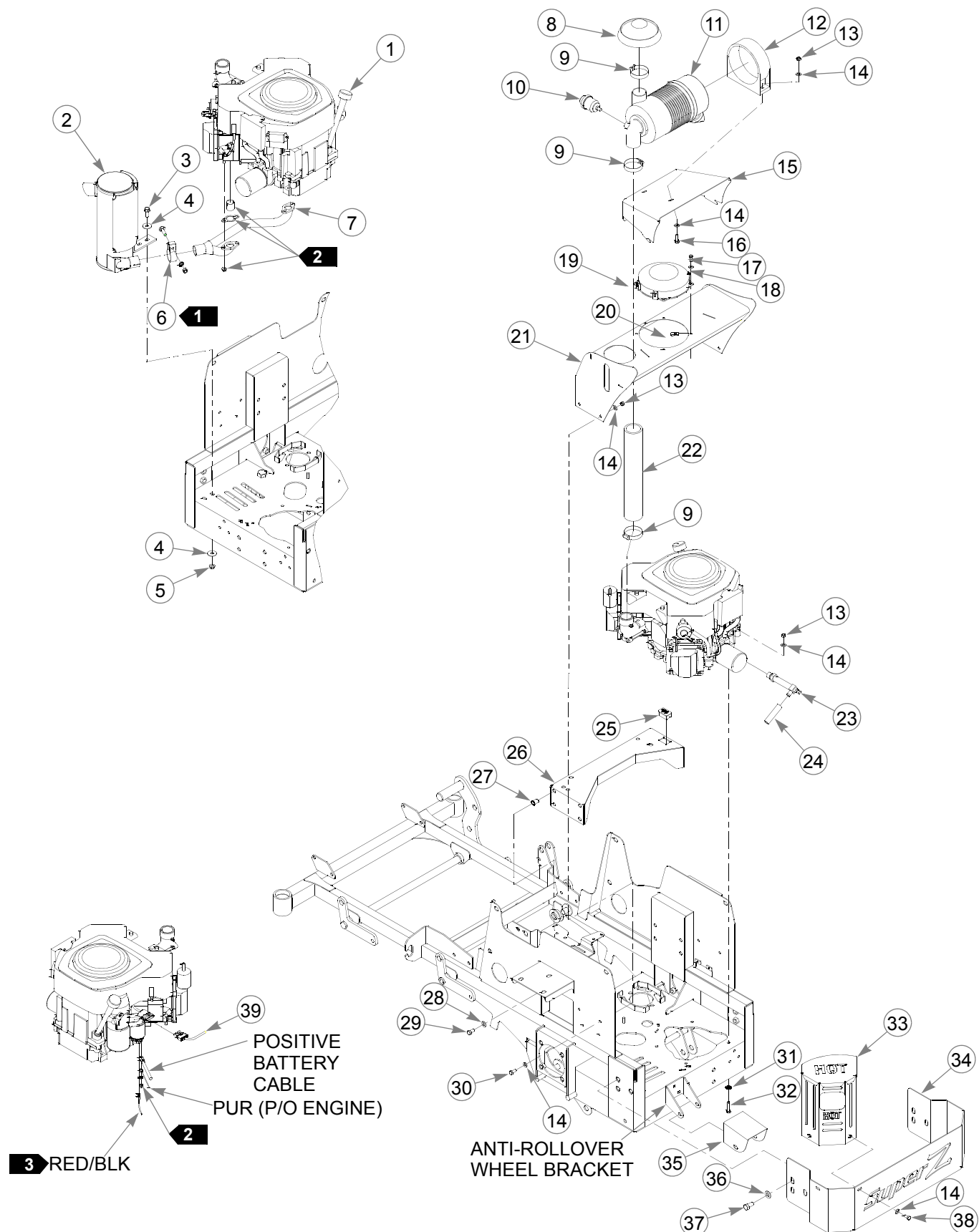
1. Includes mounting hardware.
2. Includes one (1) of Item 3 (057661 Hose Clamp).

-
3. Part of Item 41 (787200 Tractor Wire Harness).
 4. Engine oil capacity; 2 US quarts.
 5. Engine RPM to be set at 3600±50.
 6. When installing lower hose clamp on air cleaner hose, install as low as possible (against carburetor inlet).
 7. Air filter service parts:

785261	MAIN AIR FILTER ELEMENT
763318	VACUATOR VALVE

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Kohler Engine Installation



Kohler Engine Installation

INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY.	DESCRIPTION
1	788216	788216	1	KOHLER CV740 ENGINE (27 HP)
2	788018	788018	1	KOHLER MUFFLER
3	029751	029751	2	CS .375-16 X 1.00 HXFLK ZNYC
4	705137	705137	4	FW .391 X 1.250 X .060 ZNYC
5	016899	016899	2	NT .375-16 HXFLK ZNYC
6	785378	785378	1	MUFFLER 1.50" CLAMP
7	788026	788026	1	KOHLER 27-2 MANIFOLD
4	786673	786673	1	DONALDSON AIR CLEANER CAP
9	057661	057661	3	HOSE CLAMP
10	788943	788943	1	AIR FILTER INDICATOR
11	782763	782763	1	AIR CLEANER
12	785741	785741	1	MOUNTING BAND
13	034272	034272	10	NT .312-18 HX G5 ZNYC
14	768523	768523	18	FW .343 X .687 X .051/.080 HD ZNYC
15	370270	370270	1	MINI Z DEFLECTOR SCOOP
16	036236	036236	2	CS .312-18 X 1.00 HX G5
17	055939	055939	4	CS .250-20X .750 HX G5 ZNYC
18	768515	768515	4	FW .281X.625X.051/.080HD ZNYC
19	783837	783837	1	ELECTRIC COOLER FAN
20	044818	044818	4	CN ZN TIN-C7343-1420
21	369470	369470	1	SUPER MINI Z HOOD
22	795310	795310	1	REMOTE AIR FILTER HOSE
7	796672	796672	1	3/8-18 OIL DRAIN VALVE
24	787713	787713	1	0.50" LOW PRESSURE HOSE
25	769166	769166	1	HOUR METER
26	388892	388892	1	MINI Z CROSSMEMBER
27	808493	808493	4	RIVET NUT, 3/8-16 THREAD
28	767954	767954	8	FW .406 X .812 X .060 SAE ZN
29	055822	055822	8	CS .375-16 X .750 HX G5 ZNYC
30	034280	034280	4	CS .312-18 X .750 HX G5 ZNYC
31	029876	029876	4	LW .312 INT-EXT TOOTH ZNYC
32	052837	052837	4	CS .312-18X1.500 HX G5 ZNYC
33	369132	369132	1	MINI Z MUFFLER GUARD
34	300061	300061	1	ENGINE GUARD
35	377994	377994	1	MMZ ROLLER HEAT SHIELD
36	767962	767962	6	FW .531X 1.063X.090 SAE ZN
37	016527	016527	6	CS .500-13X1.00 HX G5 ZNYC
38	064006	064006	2	CS .312-18X .625 HX G5 ZNYC
39	788000	788000	1	WIRE HARNESS

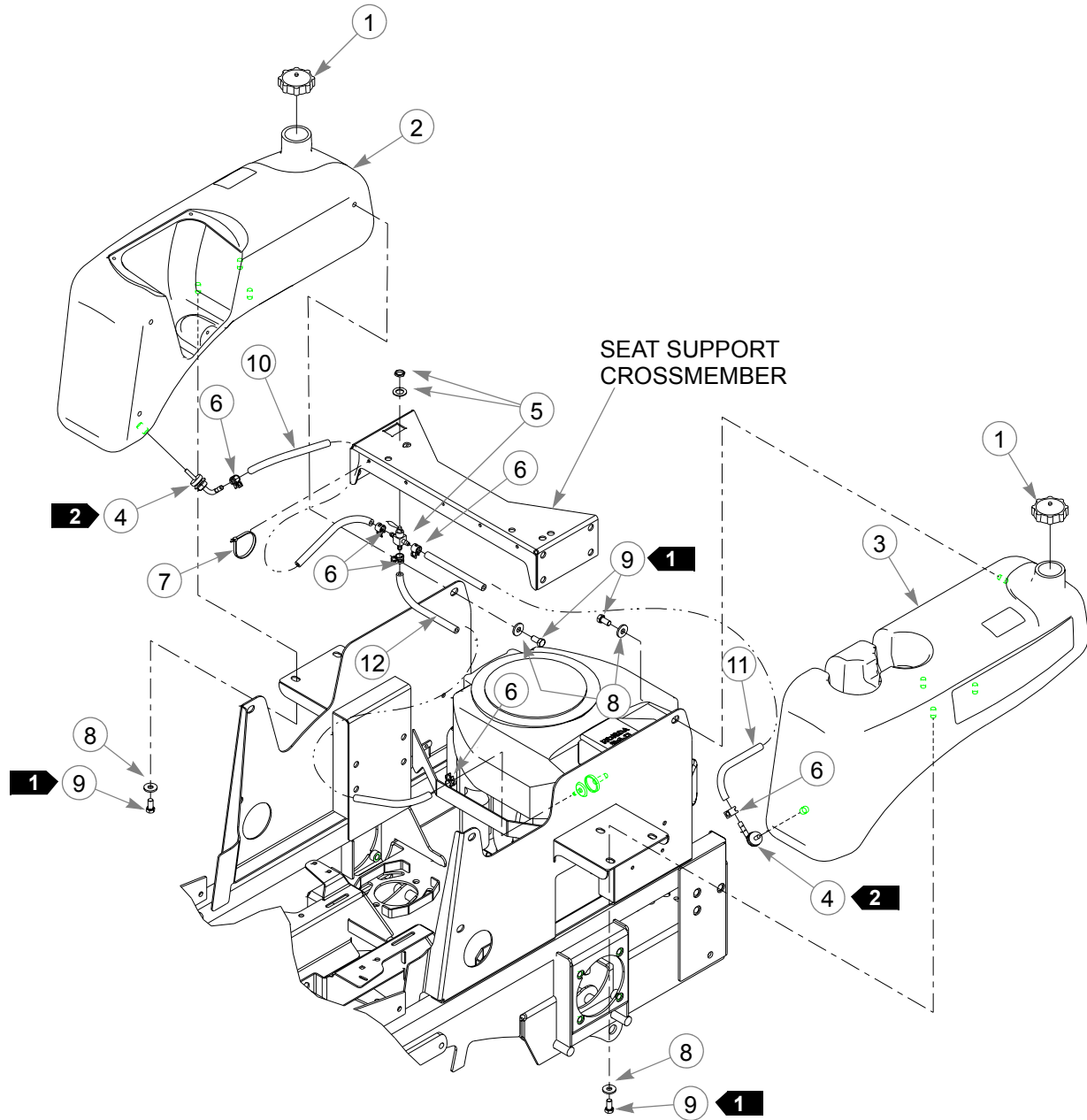
NOTES:

1. Includes mounting hardware.
2. Supplied with engine.
3. Part of Item 39 (788000 Wire Harness).
4. Includes one of Item 9 (057661 Hose Clamp).
5. Engine oil capacity: 2 US quarts.
6. Engine RPM to be set at 3600±50.

-
7. Used on mowers with serial number 05031280 and higher. These parts replace drain hose, 90° fitting, and drain plug, on mowers with serial numbers prior to 05031280

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Fuel System Installation



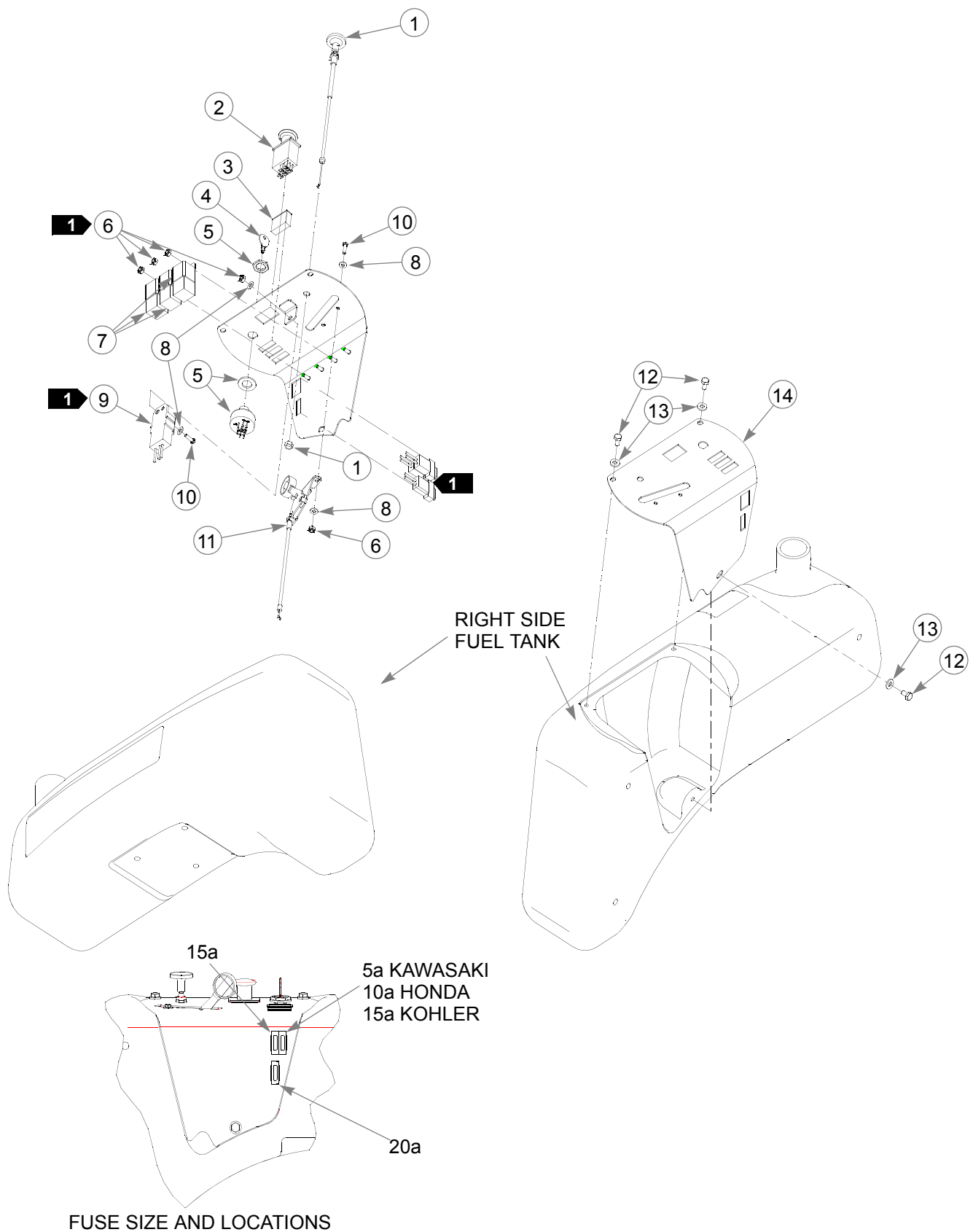
Fuel System Installation

ITEM NO.	SERVICE PART NO.	MFG. PART NO.	QTY	DESCRIPTION
1	784181	784181	2	FUEL TANK CAP
2	796318	796318	1	RIGHT SIDE FUEL TANK
3	796326	796326	1	LEFT SIDE FUEL TANK
4	791277	791277	2	FITTING, FUEL TANK 90°
5	745059	745059	1	3-WAY FUEL VALVE
6	000323	000323	6	CLIP
7	000331	000331	3	BLACK CABLE TIE
8	767954	767954	12	FW .406 X .812 X .060 SAE HD ZN
9	055822	055822	12	CS .375-16 X .75 HX G5 ZNYC
10	015818	015818	1	FUEL LINE 12.5" TOTAL
11	015818	015818	1	FUEL LINE 29" TOTAL
12	015818	015818	1	FUEL LINE 7.5" TOTAL KAWASAKI
	015818	015818	1	FUEL LINE 22" TOTAL HONDA

NOTES:

1. Torque to 20 ft.-lbs.
2. Supplied with new fuel tank.

Instrument Panel Installation/Assembly



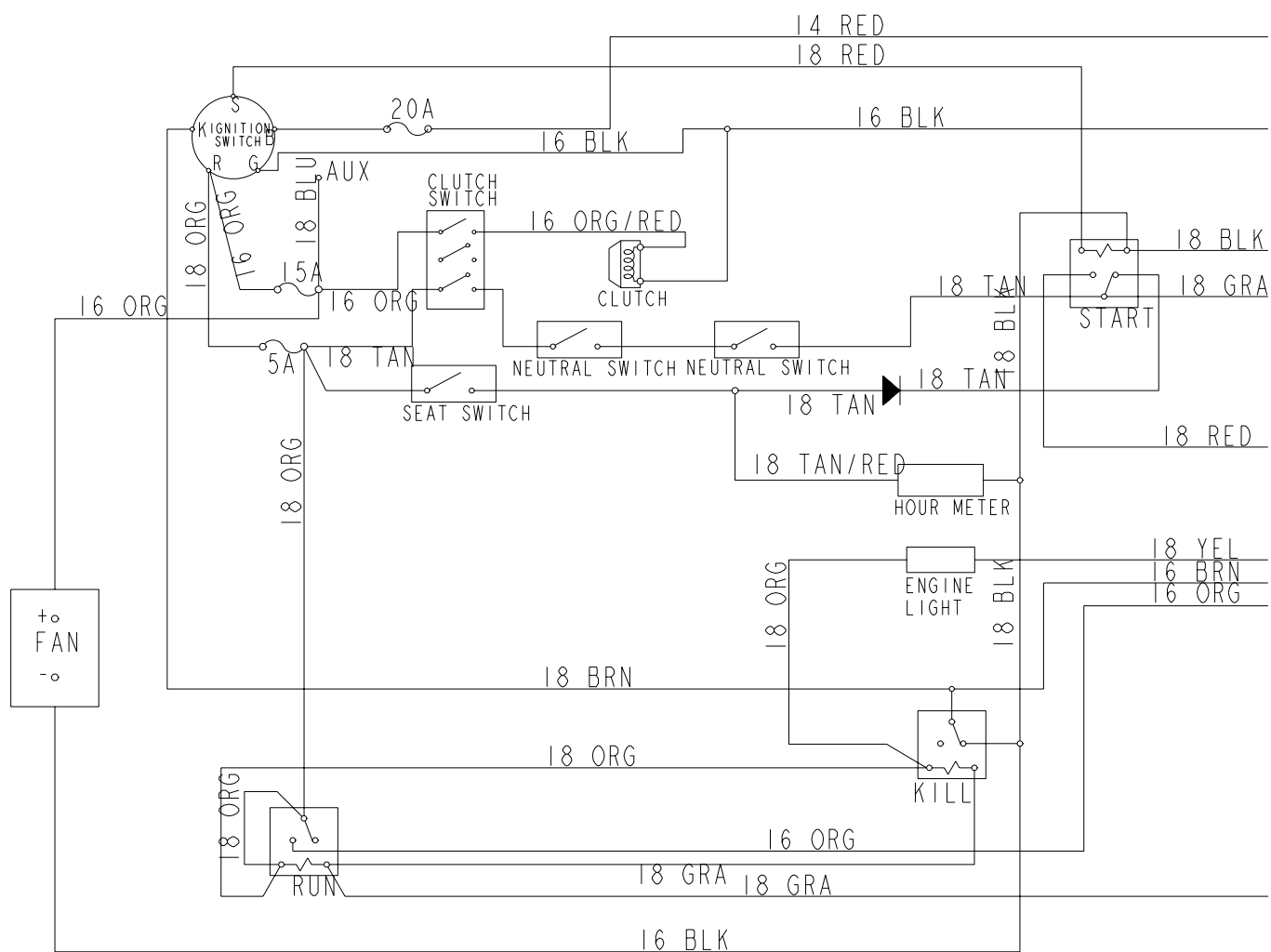
Instrument Panel Installation/Assembly

ITEM NO.	SERVICE PART NO.	MFG. PART NO.	QTY	DESCRIPTION
1	785030	785030	1	Z CHOKE CABLE (KAWASAKI ENGINES)
	786657	786657	1	Z CHOKE CABLE (HONDA ENGINES)
	786657	786657	1	Z CHOKE CABLE (KOHLEK ENGINES)
2	776476	776476	1	PTO SWITCH
3	712257	712257	1	RED INDICATOR LIGHT
4	083022	N/A	2	IGNITION KEY
4	785808	785808	1	INDAK COATED KEY
5	045898	045898	1	KEY SWITCH
6	059832	059832	6	NT #10-24 HX NL ZN
7	026237	N/A	3	RELAY
8	704932	704932	6	FW .219 X .500 X .048 ZN
9	762195	N/A	1	DELAY MODULE
10	714998	714998	3	MS #10-24 X .625 HX ZN
11	778365	778365	1	THROTTLE/CHOKE CABLE
12	055947	055947	3	CS .250-20 X .500 HX G5 ZN
13	768515	768515	3	FW .281 X .625 X .051 /.080 HD ZN/YL
14	349308	349308	1	INSTRUMENT PANEL

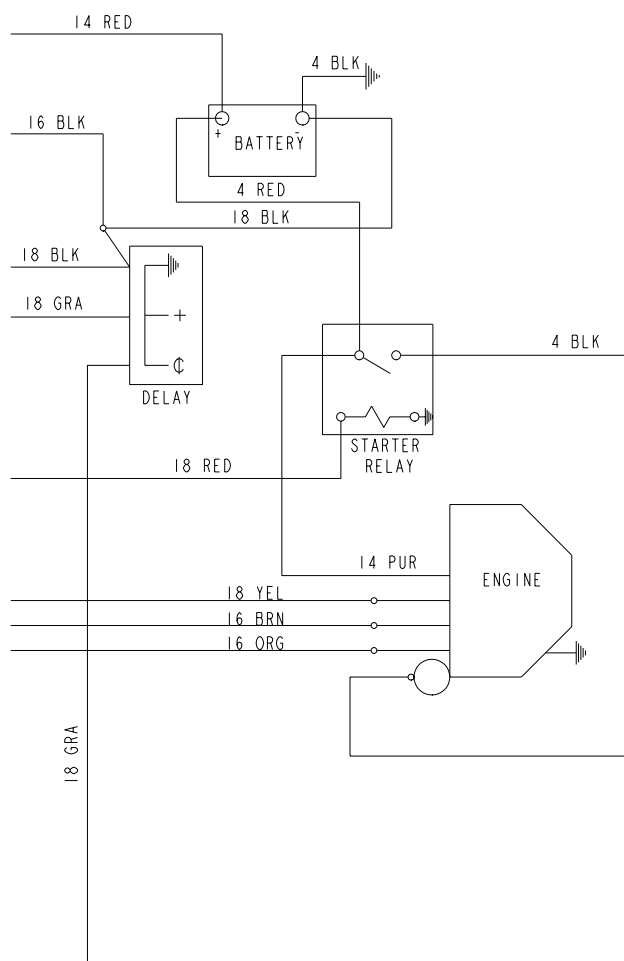
NOTES:

1. Part of Tractor Wire Harness.

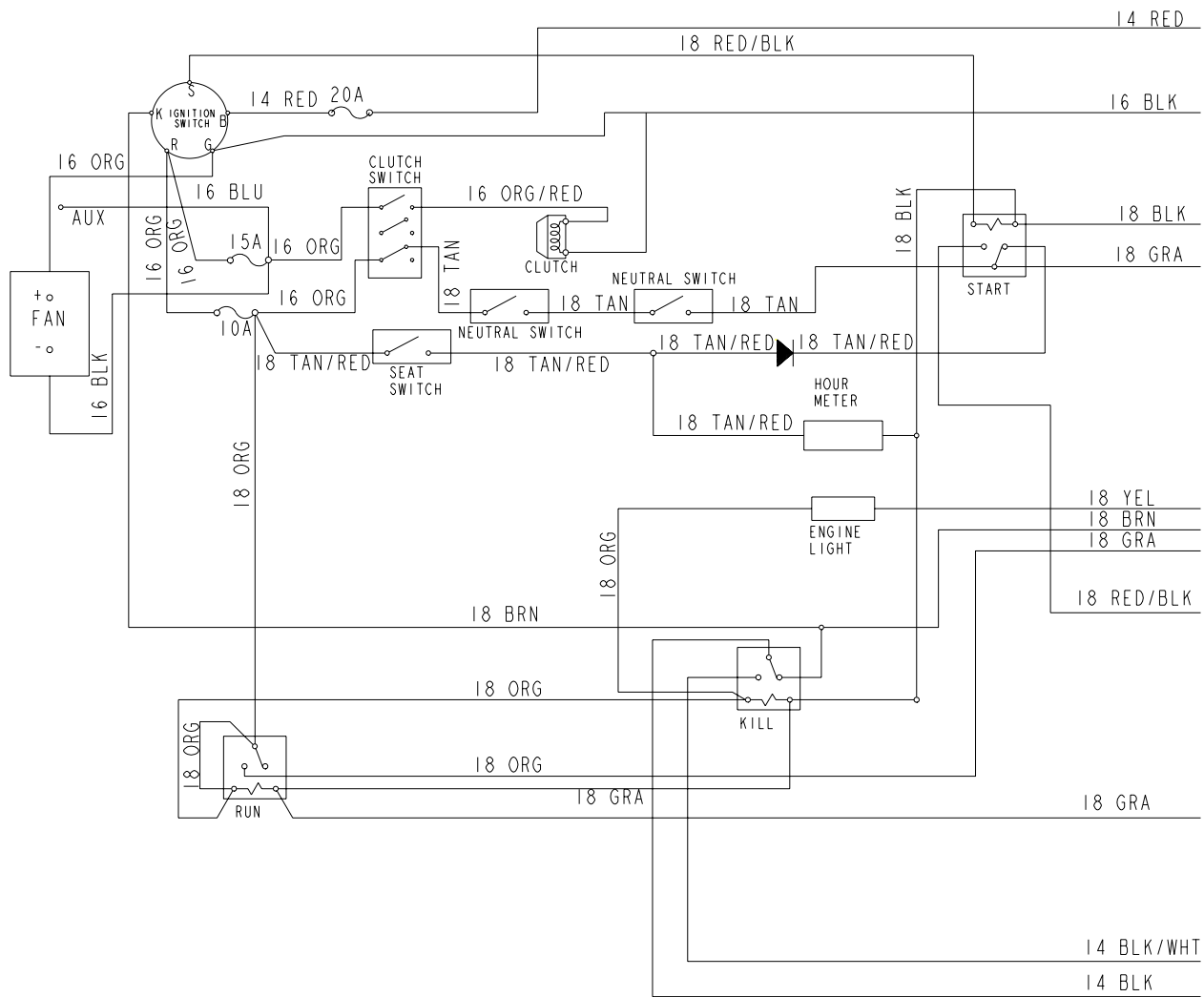
Electrical Schematic - Kawasaki Engines (783894)



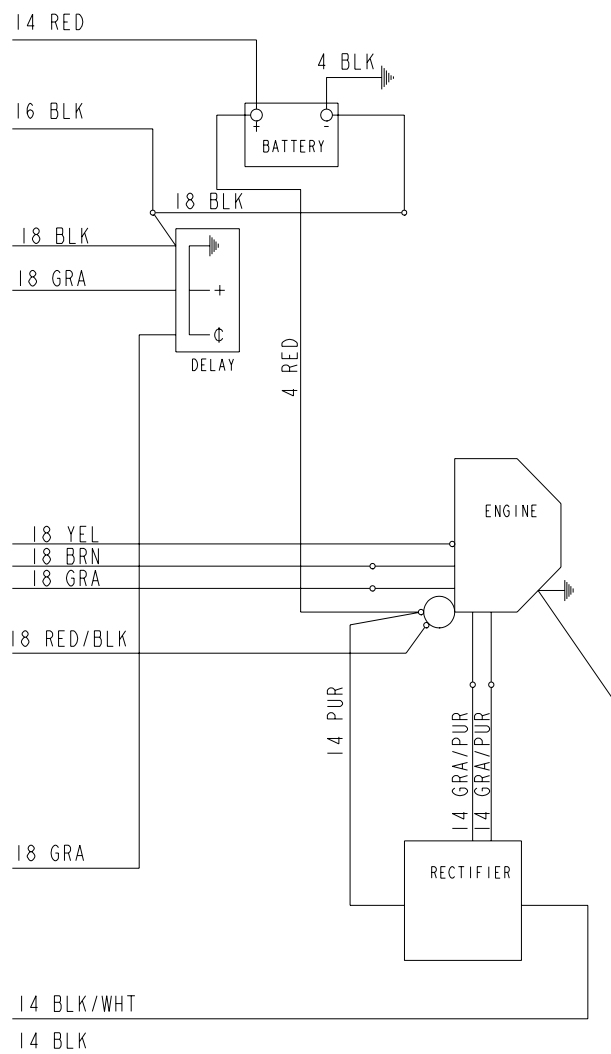
Electrical Schematic - Kawasaki Engines (783894)



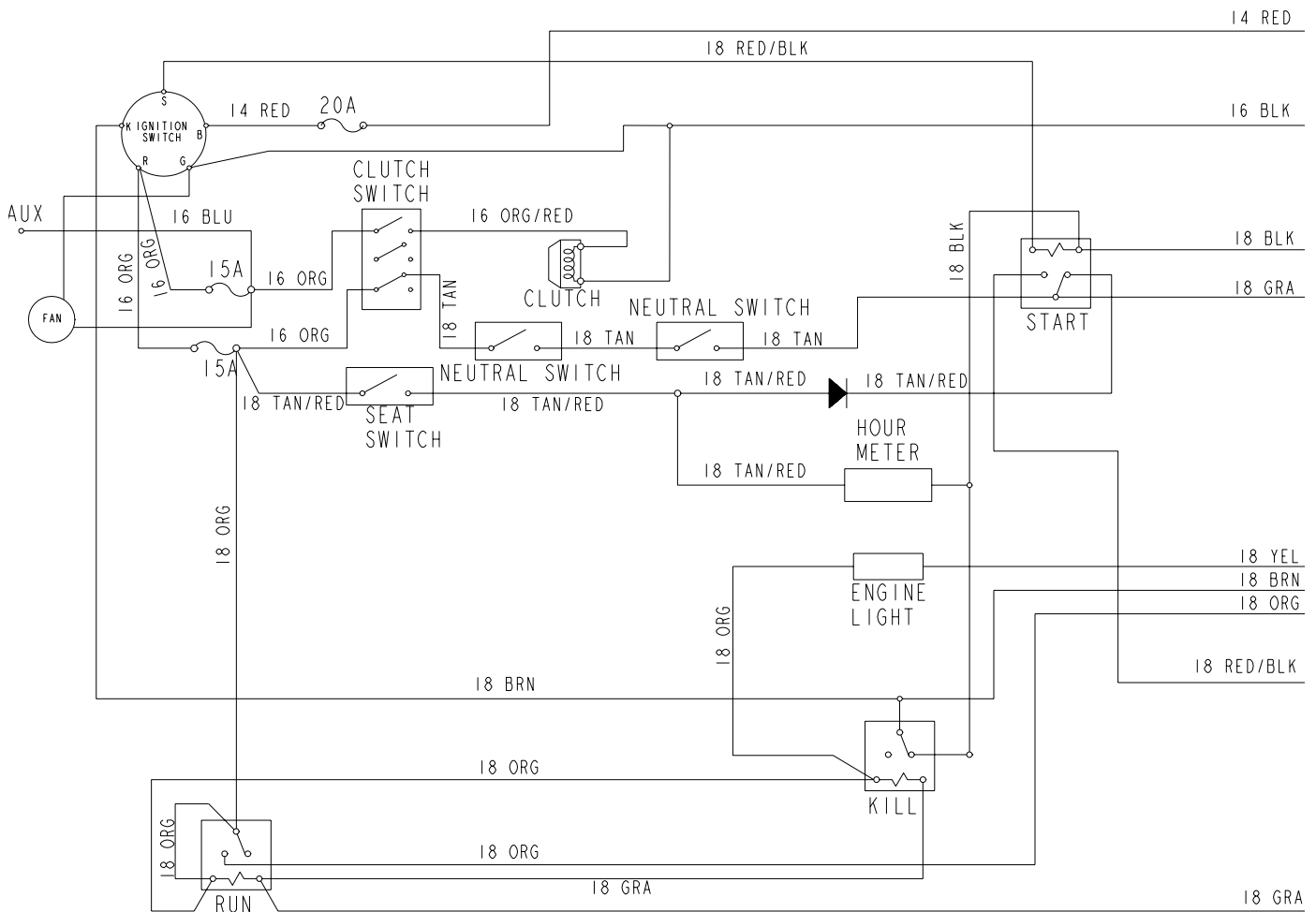
Electrical Schematic - Honda Engines (787200)



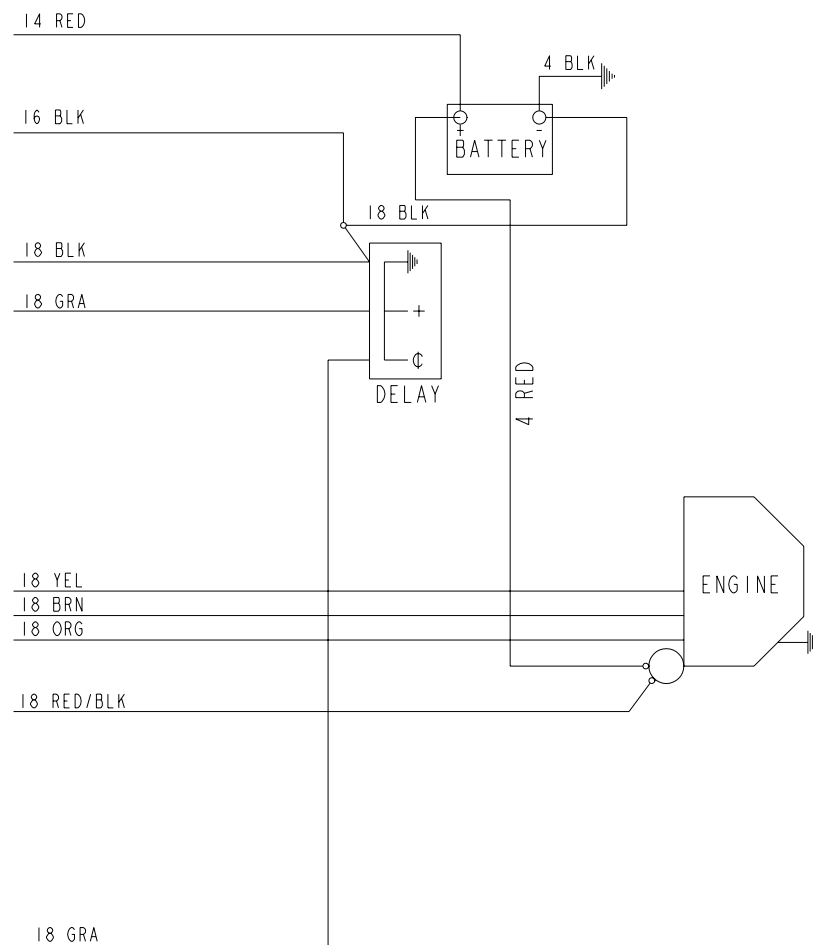
Electrical Schematic - Honda Engines (787200)



Electrical Schematic—Kohler (788000)



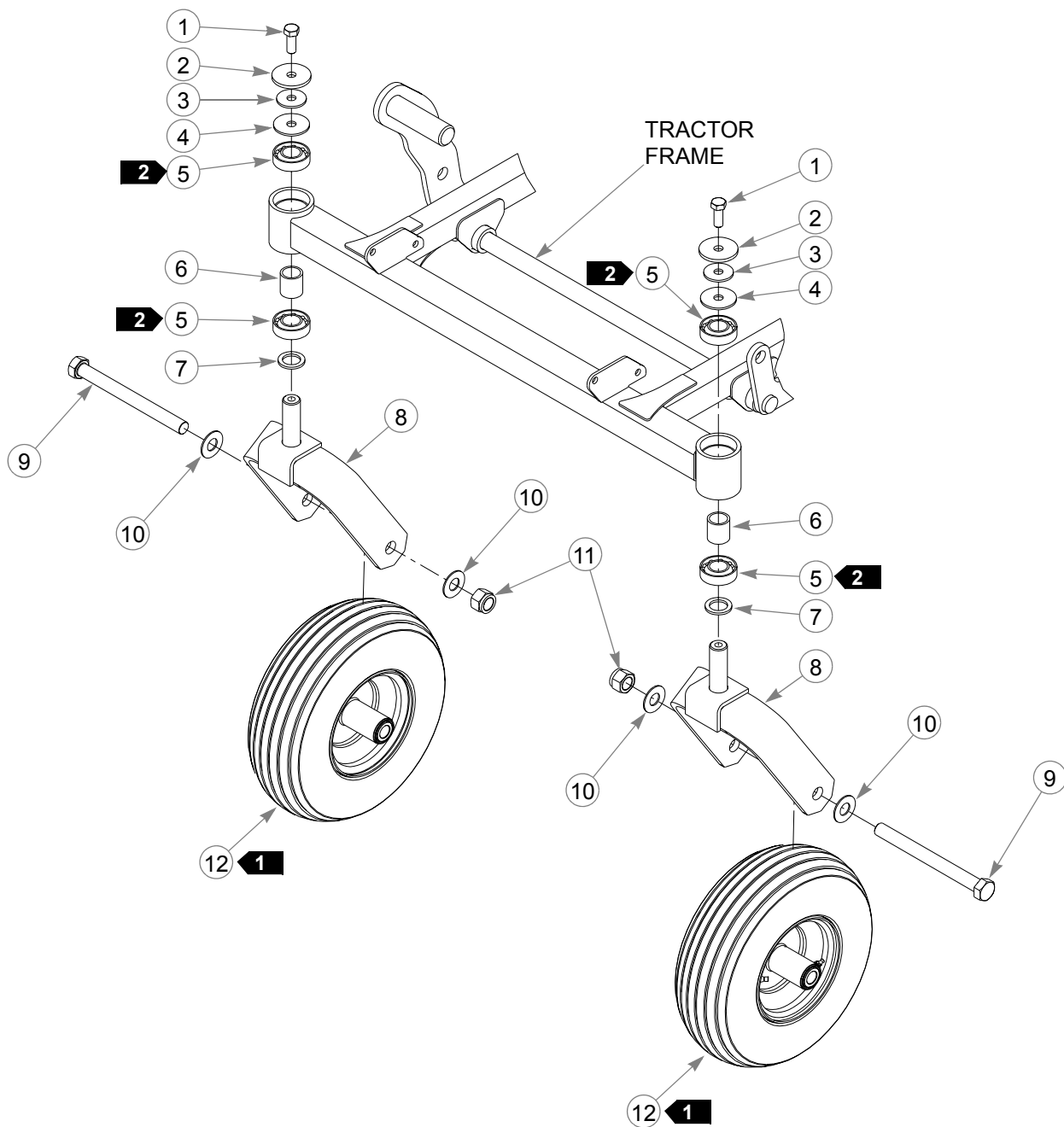
Electrical Schematic—Kohler (788000)



Chapter 6 Contents

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Front Wheel Breakdown	6-4
Drive Wheel Assembly.	6-5
Anti-Rollover Wheel Assembly	6-6

Front Wheel Assembly



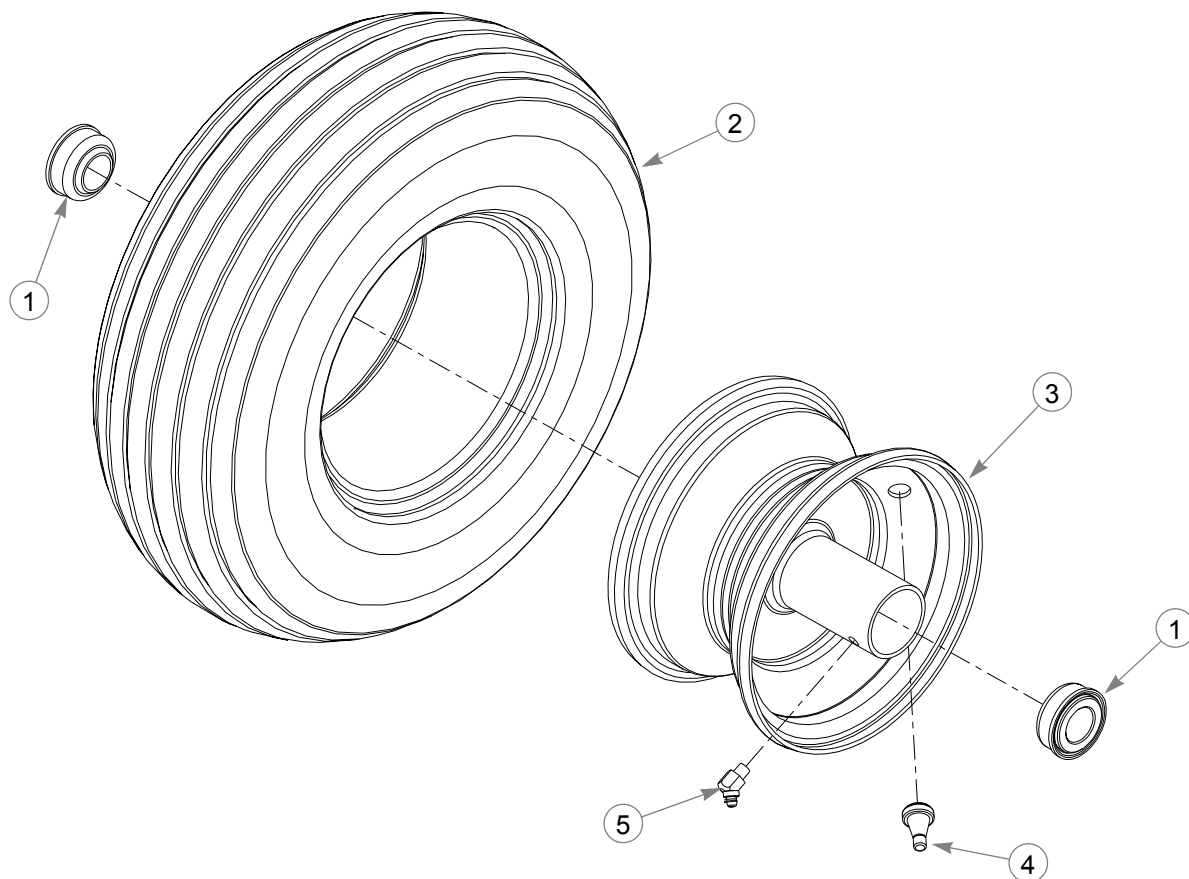
Front Wheel Assembly

INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY	DESCRIPTION
1	705954	705954	2	CS .500-13 X 1.25 HX G5 ZN
2	344267	344267	2	FW .510 X 2.15 X .187 SPL ZN
3	798603	798603	2	FW .515 X 1.65 X .125 HD ZY
4	263517	263517	2	BEARING DISC
5	784223	784223	4	BEARING W/O COLLAR
6	784603	784603	2	SPACER
7	045765	045765	2	FW 1.030 X 1.500 X.134 ZN
8	366625	366625	2	FORK
9	786731	786731	2	CS .750-10 X 8.00 HX GR5 ZYNC
10	025296	025296	4	FW .760 X 1.625 X .08 ZN
11	061101	061101	2	NT .750-10 HX NL ZN
12	786061	786061	2	WHEEL & TIRE ASSY
	795245	N/A	2	OPTIONAL SEMI-PNEUMATIC TIRE/WHEEL ASSEMBLY

NOTES:

1. Apply grease to zerks (see owner's manual).
2. Assemble with extended inner race down.

Front Wheel Breakdown - 786061

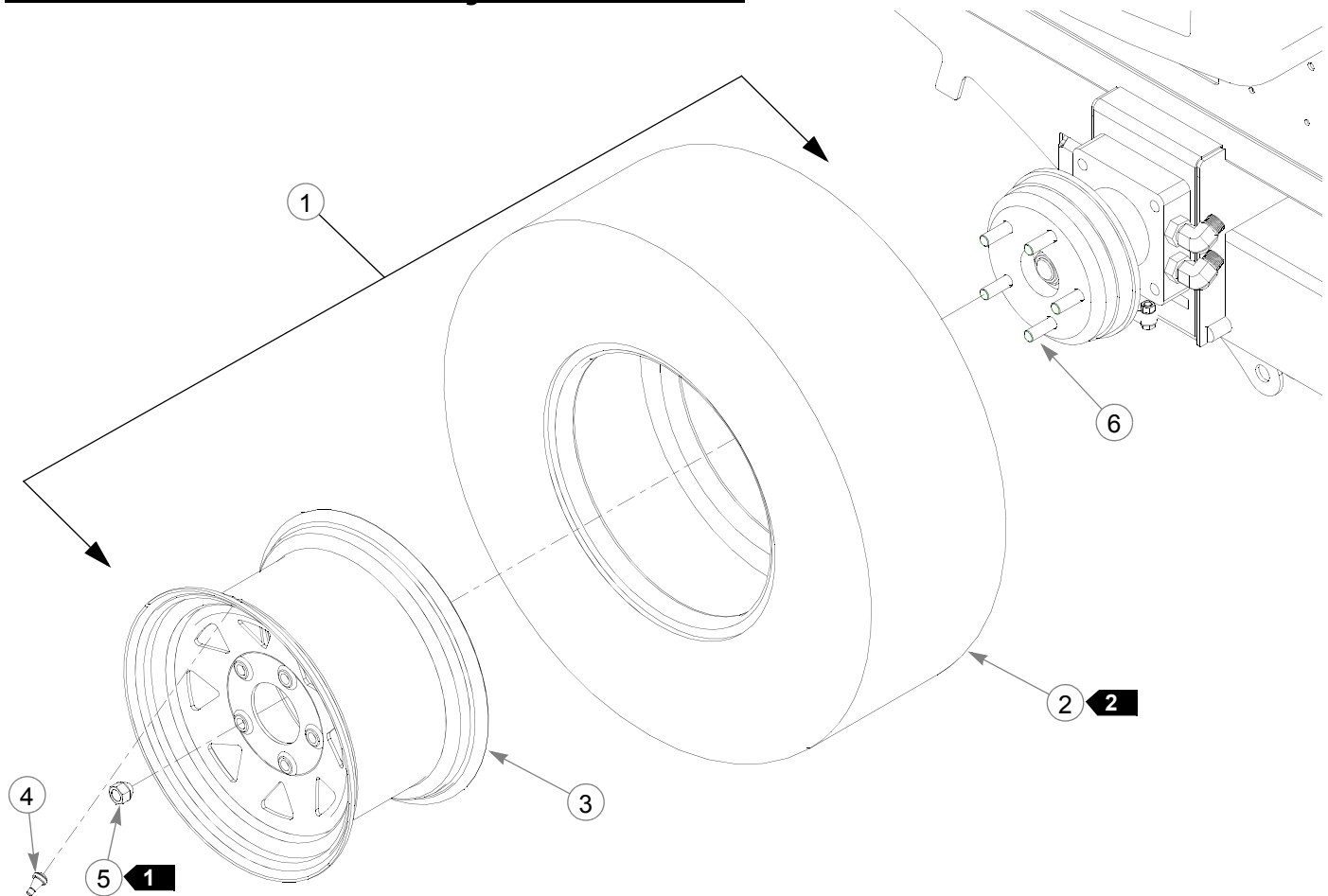


ITEM NO.	SERVICE PART NO.	MFG. PART NO.	QTY	DESCRIPTION
2 1	786103	N/A	2	WHEEL BEARING
2	747402	N/A	1	TIRE 13 X 5.00
3	786079	N/A	1	WHEEL
4	019521	N/A	1	TIRE VALVE
2 5	015511	N/A	1	GREASE FITTING 45 DEG 1/4

NOTES:

1. Inflate tire to 8-10 psi.
2. Service parts for 795245 (Optional Semi-Pneumatic Tire/Wheel Assembly), also.

Drive Wheel Assembly/Installation

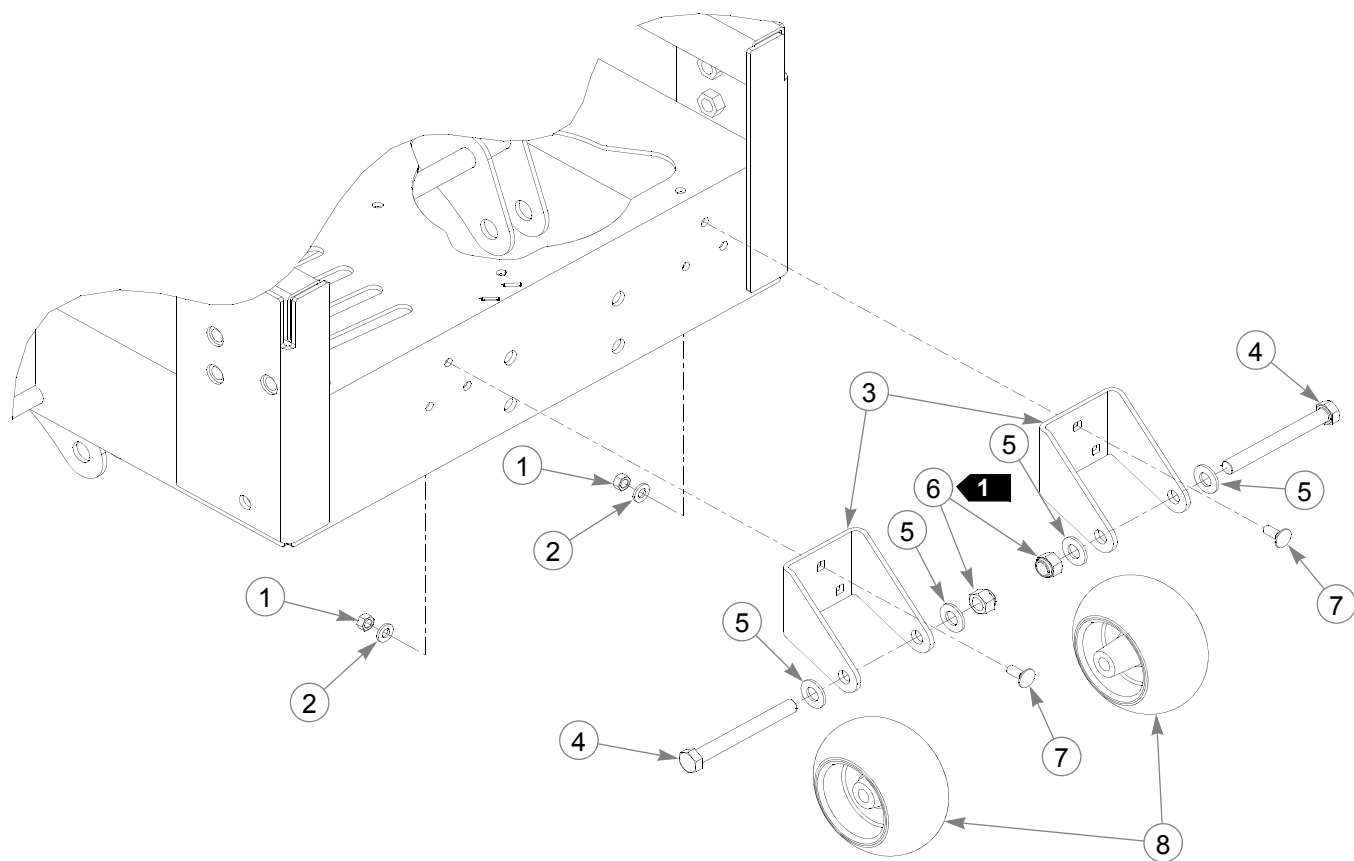


INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY	DESCRIPTION
1	782078	782078	2	WHEEL/TIRE ASSEMBLY 23 X 9.50
2	782284	N/A		TIRE 23 X 9.50-12
3	782086	N/A		WHEEL 10 X 7.5
4	019521	N/A		TIRE VALVE
5	061077	061077	5	WHEEL NUT (QTY PER WHEEL)
6	770859	N/A	5	1/2" WHEEL LUG STUD (QTY PER WHEEL)

NOTES:

1. Torque to 65-75 ft. lbs.
2. Inflate tire to 8-10 psi.

Anti-Rollover Wheel Assembly



INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY	DESCRIPTION
1	034272	034272	6	NT .312-18 HX G5 ZNYC
2	768523	768523	6	FW .343 X .687 X .051/.080 HD ZNYC
3	350835	350835	2	ANTI ROLLOVER WHEEL BRACKET
4	068239	068239	2	CS .500-13 X 4.500 HX G5 ZN
5	767962	767962	4	FW .531 X 1.063 X .090 SAE HD ZN
6	781567	781567	2	NT .50-13 HX LK NY
7	016253	016253	6	CB .312-18 X .750 FUL ZN
8	031997	031997	2	ANTI-SCALP WHEEL

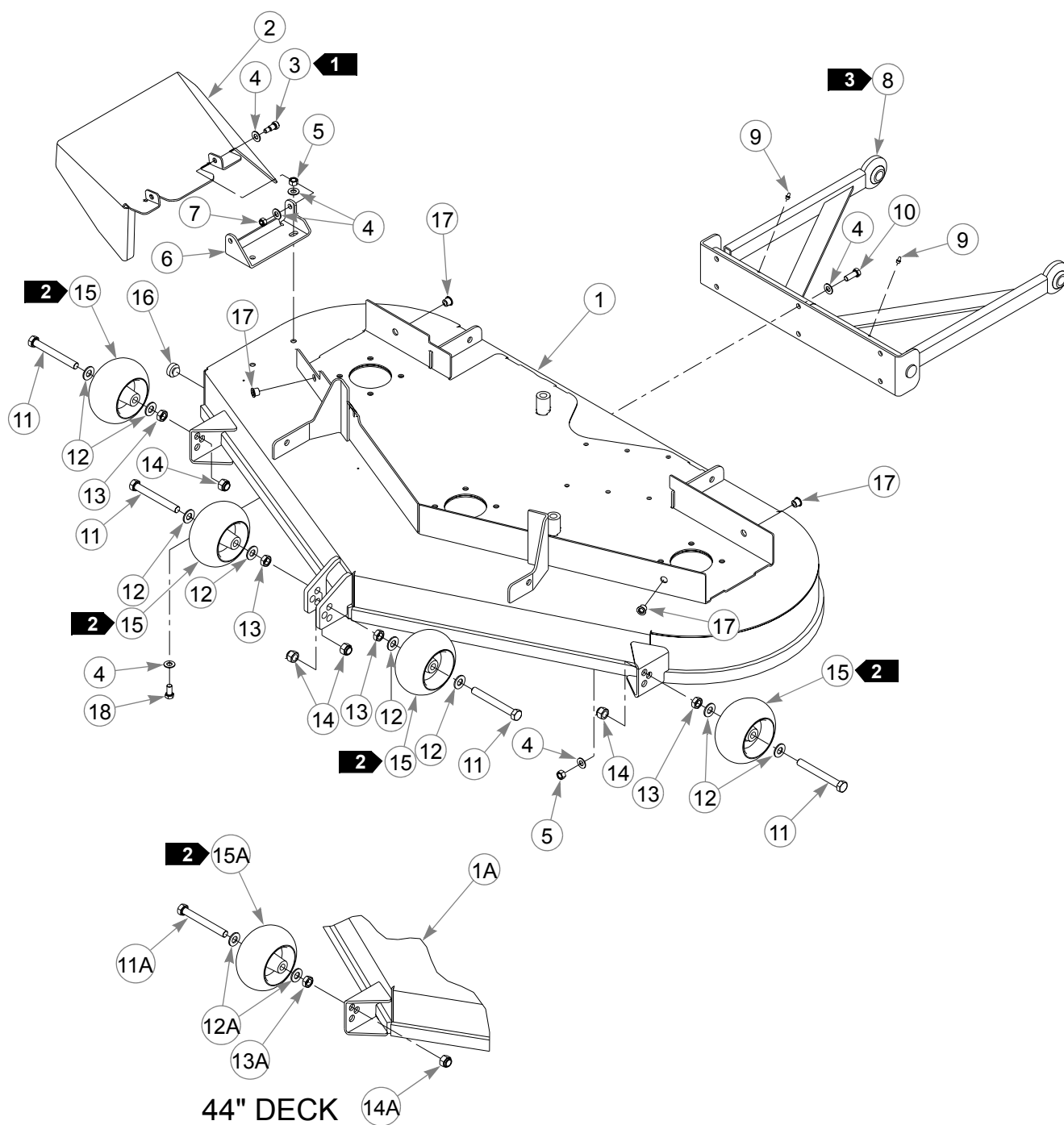
NOTES:

1. Do not torque, wheel must turn freely.
2. Mowers with serial number prior to 04110938 will have anti rollover wheel brackets as part of tractor frame.

Chapter 7 Contents

Deck Assembly	7-2
Deck Pulley Assembly	7-4
Blade Spindle Assembly Breakdown	7-6

Deck Assembly



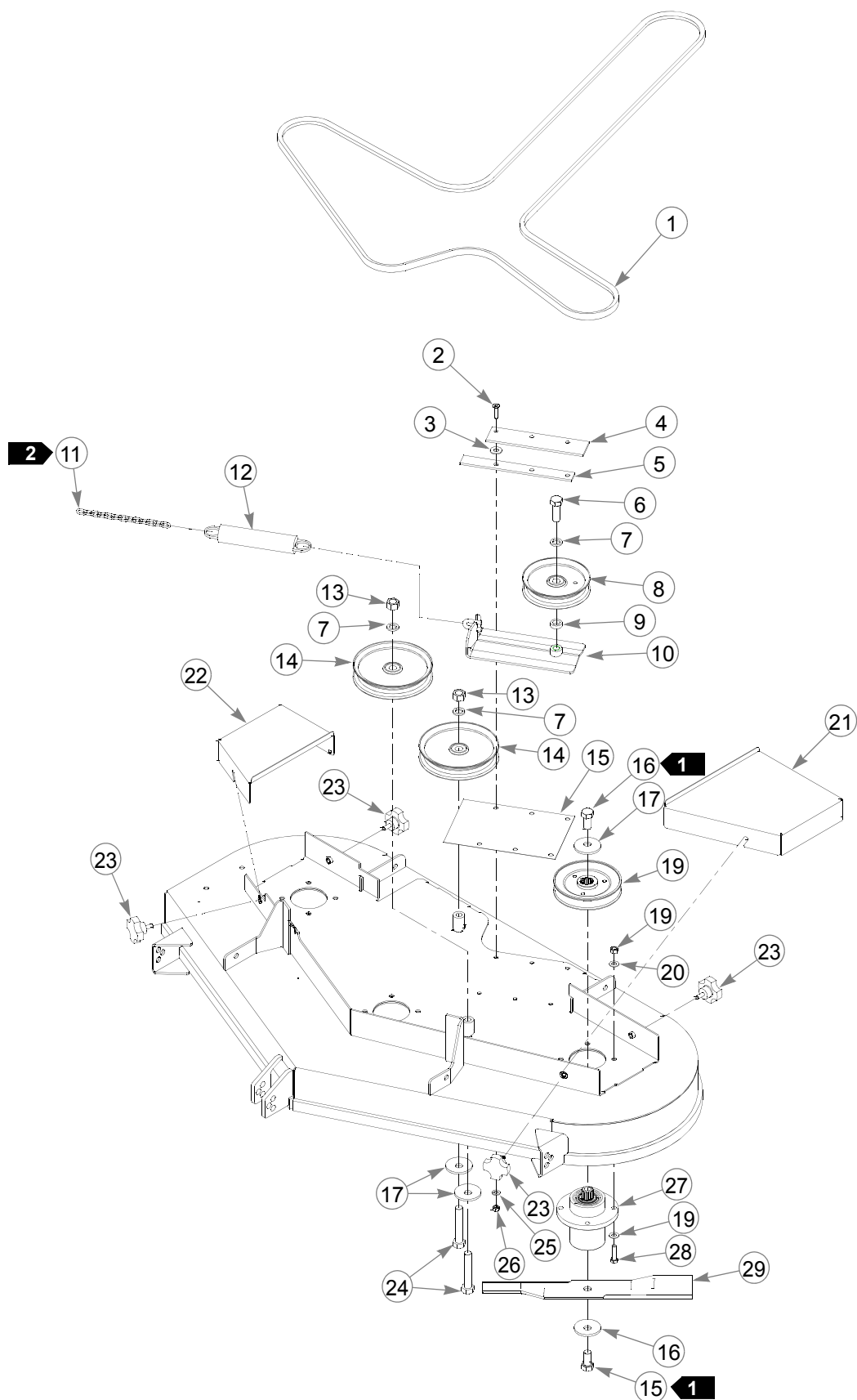
Deck Assembly

INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY.	DESCRIPTION	
5	1	546408	367730	1	52" MINI-Z DECK
	1A	546382	367946	1	44" MINI-Z DECK
	2	357111	357111	1	DISCHARGE CHUTE
	3	063297	063297	2	SB .375 X .50 SH .312-18 TD ZN
	4	767954	767954	20	FW .406 X .812 X .060 SAE HD ZN
	5	054502	054502	8	NT .375-16 HX GRD 5 ZNYC
	6	357103	357103	1	DISCHARGE CHUTE MOUNT BRACKET
	7	058776	058776	2	NT .312-18 HX NL ZNYC
	8	389189	389189	1	PUSHER
	9	015495	015495	2	STRAIGHT GREASE FITTING
	10	036244	036244	6	CS .375-16 X1.00 HX G5 ZNYC
	11	781708	N/A	4	CS .500-13 X 4.25 HX G5 ZNYC
	11A	781708	N/A	3	CS .500-13 X 4.25 HX G5 ZNYC
	12	767962	N/A	8	FW .531 X 1.063 X.090 SAE HD ZN
	12A	767962	N/A	6	FW .531 X 1.063 X.090 SAE HD ZN
	13	053199	N/A	4	NT .500-13 HX JAM ZNYC
	13A	053199	N/A	3	NT .500-13 HX JAM ZNYC
	14	781567	781567	4	NT .50-13 HX LK NY
	14A	781567	781567	3	NT .50-13 HX LK NY
	15	031997	N/A	4	ANTI-SCALP WHEEL
	15A	031997	N/A	3	ANTI-SCALP WHEEL
	16	781880	781880	1	BUMPER
	17	808485	808485	4	5/16-18 THREAD RIVET NUT
4		788166	788166	4	ANTI-SCALP WHEEL ASSEMBLY
	18	055822	055822	2	CS .375-16 X .750 HX G5 ZNYC

NOTES:

1. Do not torque, Item 2 (357111 Discharge Chute) must pivot freely.
2. Factory assembled in top hole for shipping purposes.
3. Item 8 (389189 Pusher) installed as shown with zerks pointing upward, apply grease to zerks.
4. Includes items 11(A), 12(A), 13(A), and 15(A).
5. Service part deck includes decals, see "52" Deck Decals" on page 9-4 and "44" Deck Decals" on page 9-5.

Deck Pulley Assembly



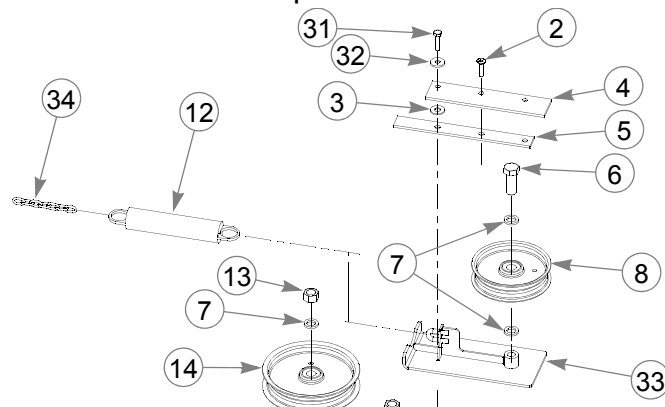
Deck Pulley Assembly

INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY.	DESCRIPTION
1	789388	789388	1	52" DECK BELT
	791335	791335	1	44" DECK BELT
2	784199	784199	6	CS .312-18 X 1.25 FLT SH ZNYC
3	017129	017129	6	FW .440 X 1.00 X .083 ZNYC
4	785832	785832	2	DECK IDLER UHMW CLAMP
5	787069	787069	2	DECK IDLER UHMW RISER
6	025007	025007	1	CS .625-11 X1.75 HX G5 ZNYC
7	028118	028118	4	FW .62 X 1.00 X.134 ZNYC
8	781856	781856	1	IDLER NHI 5.00" PULLEY
9	600296	600296	1	DECK IDLER SPACER
10	350884	350884	1	DECK IDLER
11	259812	259812	1	SPRING CHAIN
12	781302	781302	1	IDLER SPRING
13	016972	016972	2	NT .625-11 HX G5 ZNYC
14	781385	781385	2	IDLER PULLEY
15	786335	786335	1	UHMW (.03 THICK)
16	781872	781872	6	CS .625-11 X 1.25 HX G5 ZNYC
17	782474	782474	8	CW .631 2.25 X .187 PNT
18	786889	786889	3	DECK DRIVE PULLEY (52" DECKS)
5	792689	792689	3	5.00" OD PULLEY (44" DECKS)
19	054502	054502	12	NT .375-16 HX GRD 5 ZNYC
20	767954	767954	24	FW .406 X .812 X .060 SAE HD ZN
21	368993	368993	1	L.S. PULLEY COVER (52" DECKS)
	368977	368977	1	L.S. PULLEY COVER (44" DECKS)
22	368985	368985	1	R.S. PULLEY COVER (52" DECKS)
	368944	368944	1	R.S. PULLEY COVER (44" DECKS)
23	792002	792002	4	5/16-18 X 3/4" MALE KNOB
3	075291	075291	4	CLAMP KNOB
24	794875	794875	2	CS .625-11 X 3.50 FULL HX G5 ZN
25	768523	768523	6	FW .343 X .687 X .051/.080 HD ZNYC
26	058776	058776	6	NT .312-18 HX NL ZNYC
27	783506	783506	3	BLADE SPINDLE ASSEMBLY
28	005116	005116	12	CS .375-16 X 1.375 HX G5 ZNYC
29	795526	795526	3	BLADE, F17.86"-H-F-CW
4	783753	783753	3	BLADE, 17.86"-L-F-CW
	796300	796300	3	BLADE, F15.66"-H-F-CW
4	784256	784256	3	BLADE, 15.66"-L-F-CW
31	079186	079186	5	CS .312-18 X1.25 HX G5 ZNYC
32	712927	712927	5	FW .344 X 1.00 X .12 HRD ZNYC
33	378745	378745	1	DECK IDLER
34	364315	364315	1	SPRING CHAIN

NOTES:

1. Torque to 118 ft. lbs.
2. See "Deck Belt Routing and Tensioning" on page 8-3 for belt tensioning.
3. Used on mowers with serial number prior to 04032000

4. Used on mower with serial number prior to 05050800.



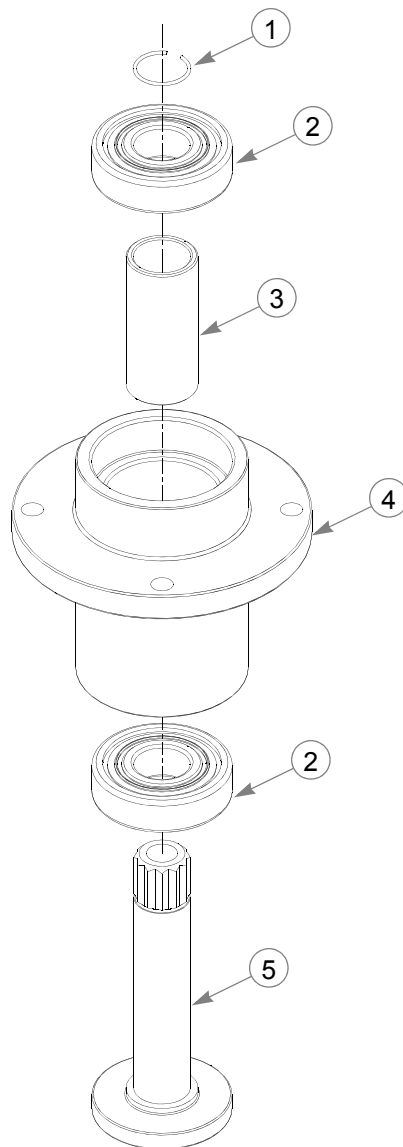
5. Used on mowers with serial number 05050800 and higher, mowers with serial number prior to 05050800, use 786889.

6. Optional blades:

785428 16" CW Gator Blade

785436 18" CW Gator Blade

Blade Spindle Assembly Breakdown



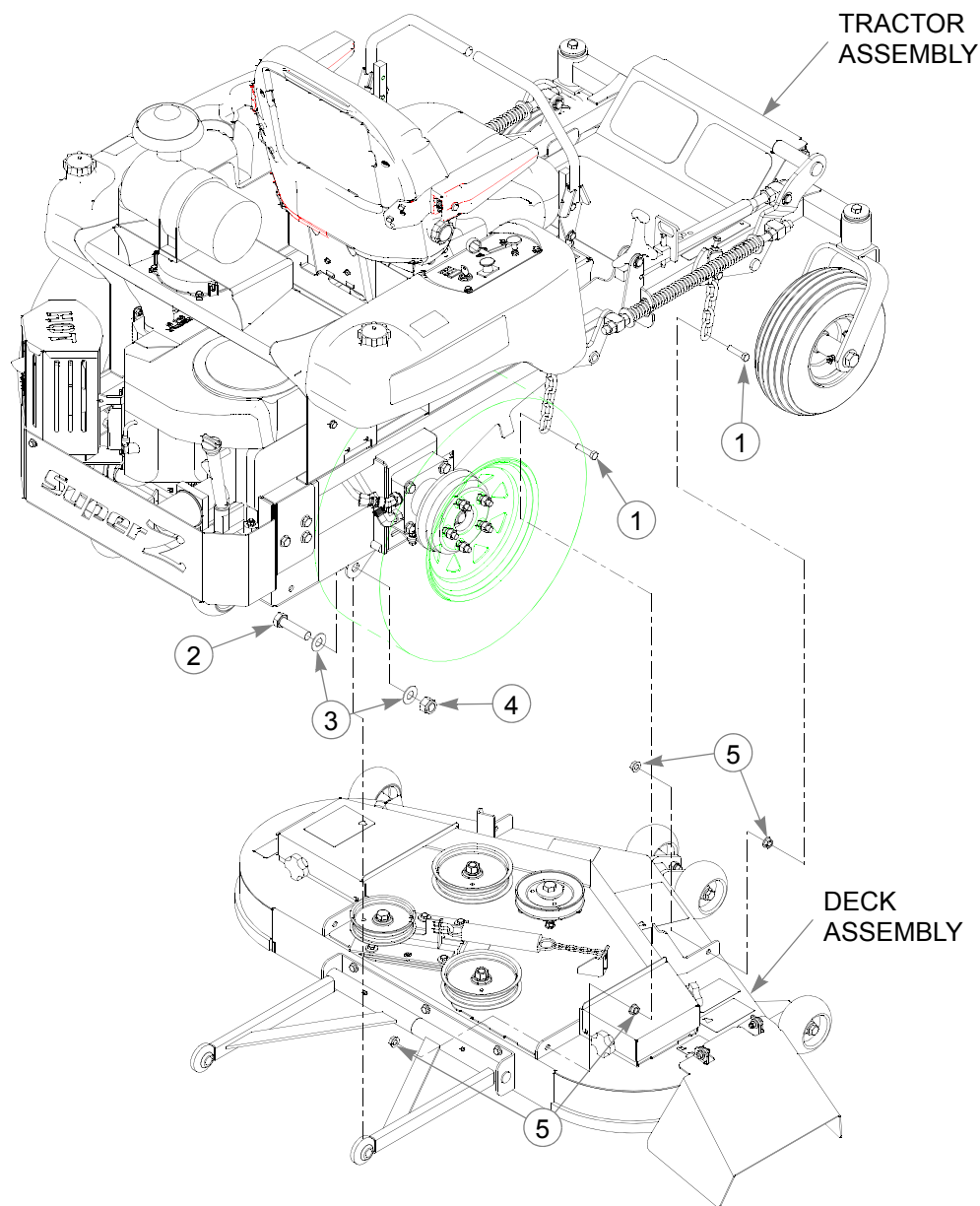
INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY.	DESCRIPTION
1	783548	783548	1	BLADE SPINDLE RETAINING RING
2	783555	783555	2	BLADE SPINDLE BEARING
3	783530	783530	1	BLADE SPINDLE SPACER
4	783514	783514	1	BLADE SPINDLE HOUSING
5	783522	783522	1	BLADE SPINDLE SHAFT

NOTES:

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Deck Installation	8-2
Deck Belt Routing and Tensioning.	8-3

Deck Installation

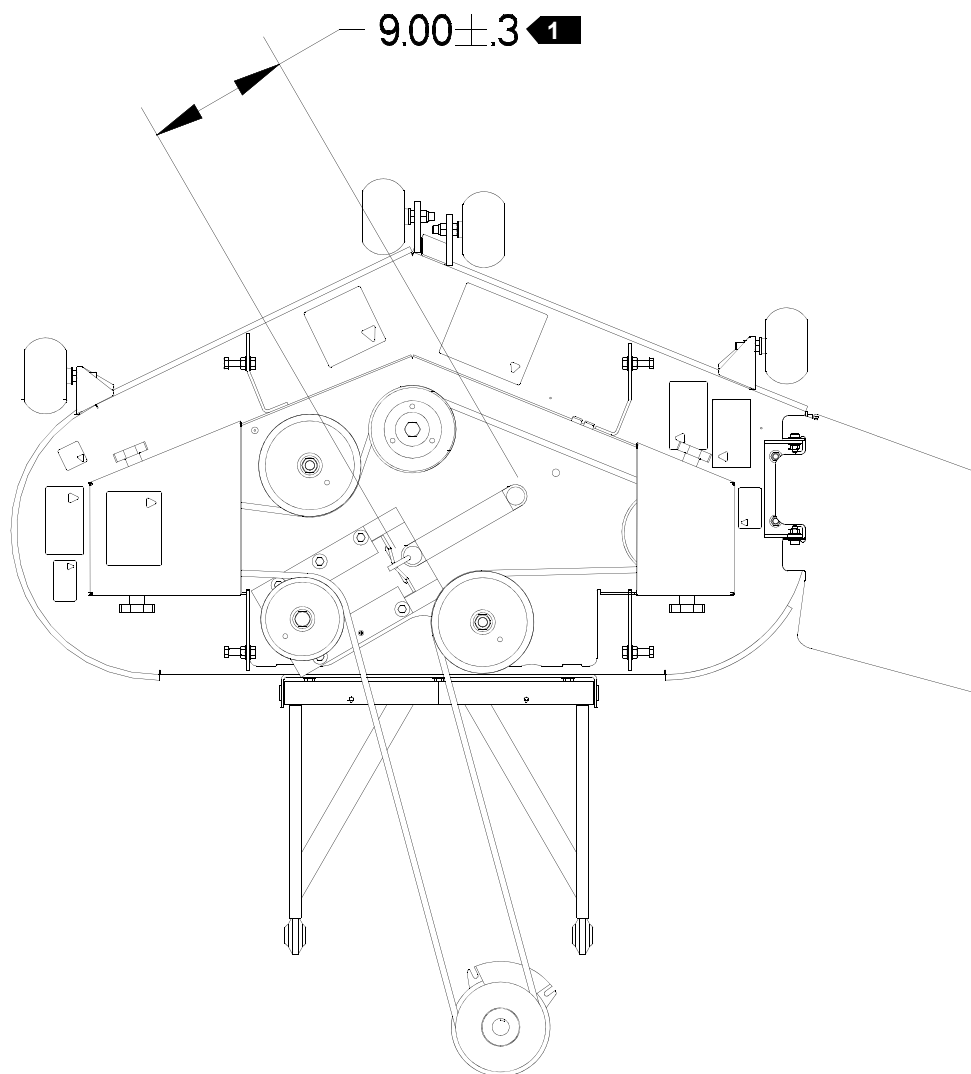


INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY.	DESCRIPTION
1	055749	055749	4	CS .437-14 X 1.750 HX G5 ZNYC
2	051169	051169	2	CS .750-10X3.000 HX G5 ZNYC
3	025296	025296	4	FW .760 X 1.625 X.08 ZNYC
4	061101	061101	2	NT .750-10 HX NL ZN
5	704643	704643	8	NT .437-14 HX FLG ZN

NOTES:

1. 52" Deck installation shown, 44" Deck installation is similar.

Deck Belt Routing and Tensioning



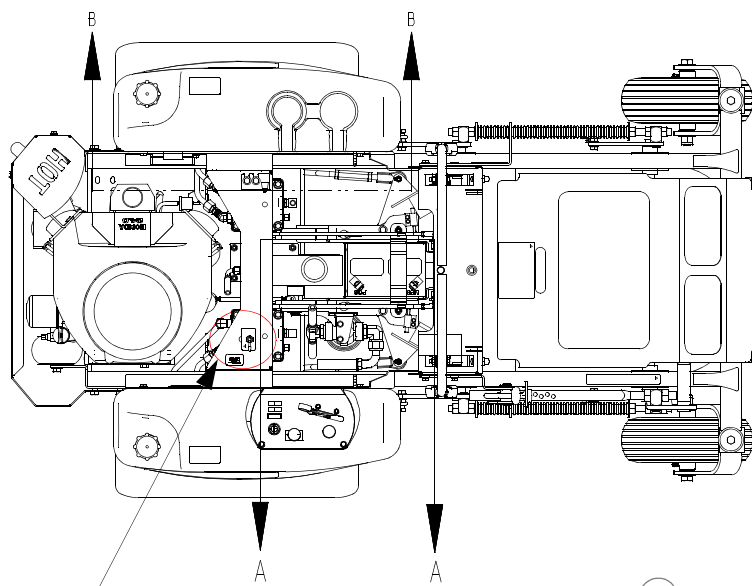
NOTES:

1. Spring length after tensioning new belt measured from outside of hook to outside of hook.
2. Route belt as shown.

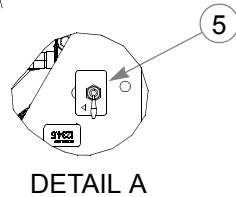
Chapter 9 Contents

Tractor Decals	9-2
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44" Deck Decals	9-5

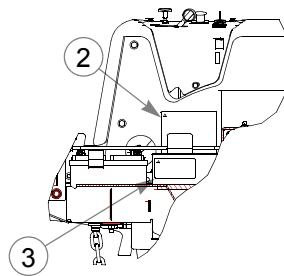
Tractor Decals



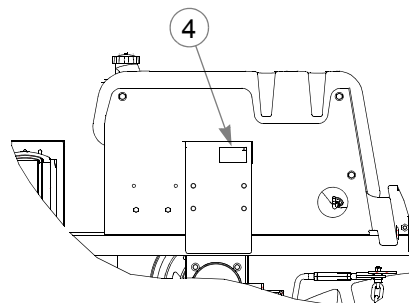
SEE
DETAIL A



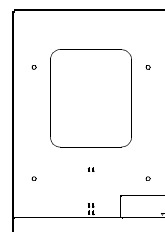
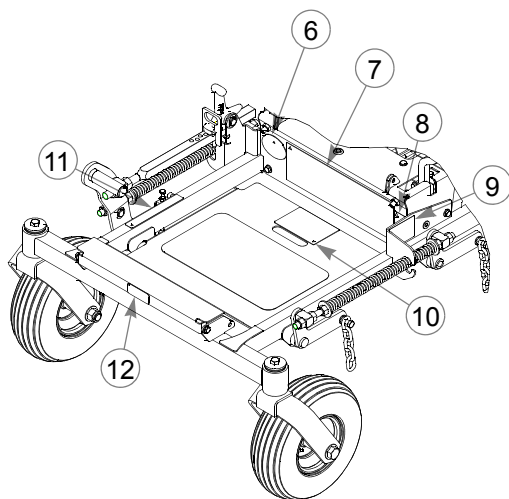
DETAIL A



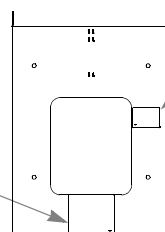
SECTION A-A



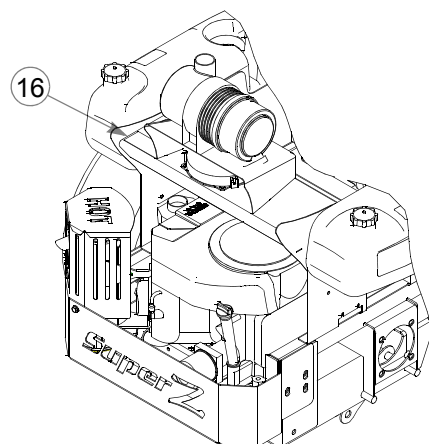
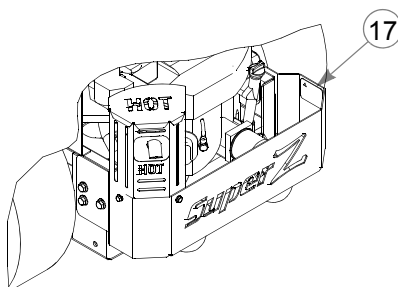
SECTION B-B



TOP OF
SEAT PAN



BOTTOM OF
SEAT PAN

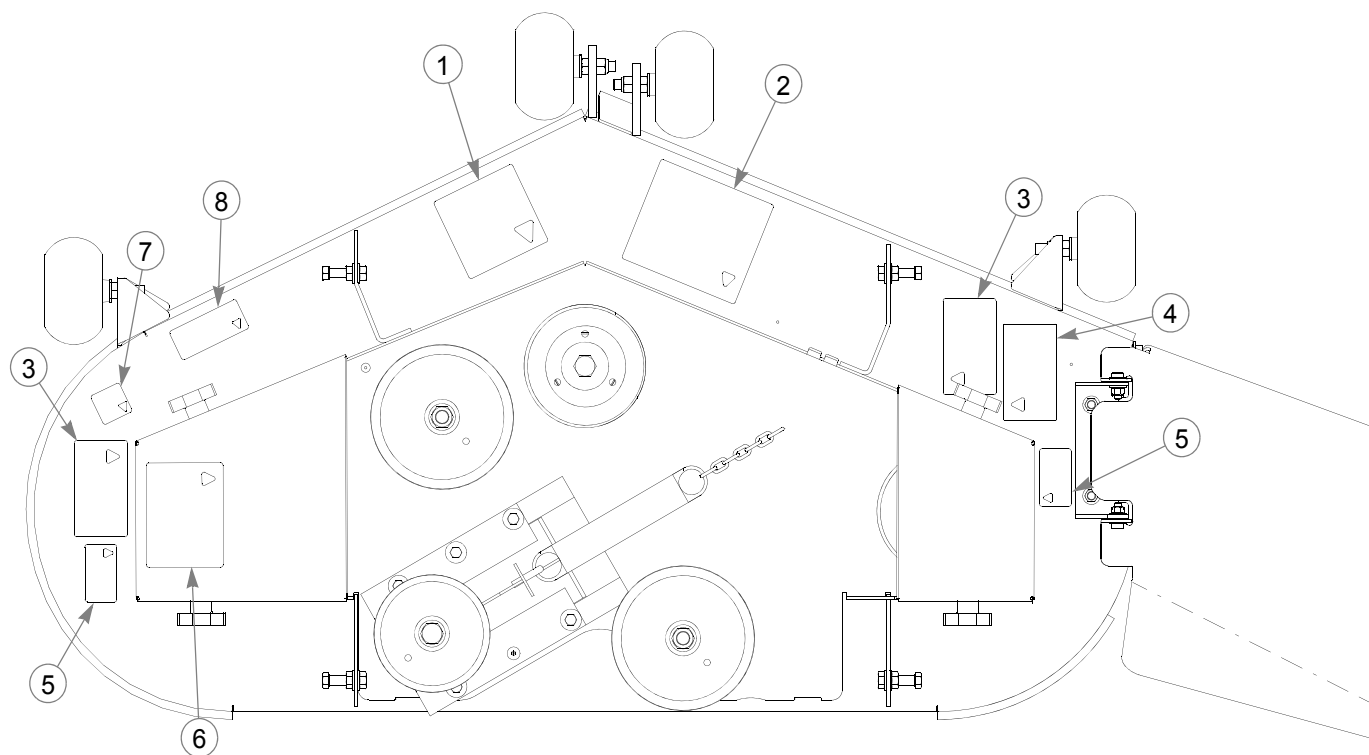


Tractor Decals

INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY.	DESCRIPTION
1	784702	784702	1	INSTRUMENT PANEL DECAL
2	782128	782128	1	Z SERVICE DECAL
3	779280	779280	1	HOT & HYD OIL DECAL
4	727008	727008	1	HYD PRESSURE DECAL
5	791848	791848	1	FUEL INDICATOR DECAL
6	782573	782573	1	FIRST ZERO TURN DECAL
7	786822	786822	1	HUSTLER SUPER MINI-Z ID DECAL
8	727172	727172	1	"MADE IN U.S.A." DECAL
9	N/A	083279	1	TURF PROD SERIAL NO PLATE
10	782136	782136	1	Z OPERATION DECAL
11	785154	785154	1	DECK HEIGHT DECAL
12	793588	793588	1	HUSTLER NAME PLATE
13	600899	600899	1	PUMP BELT WARNING DECAL
14	785188	785188	1	Z ARMREST WARNING DECAL
15	727016	727016	1	BATTERY DECAL
16	788968	788968	1	ENGINE COMPARTMENT DECAL
17	771436	771436	1	STABILIZER DECAL

NOTES:

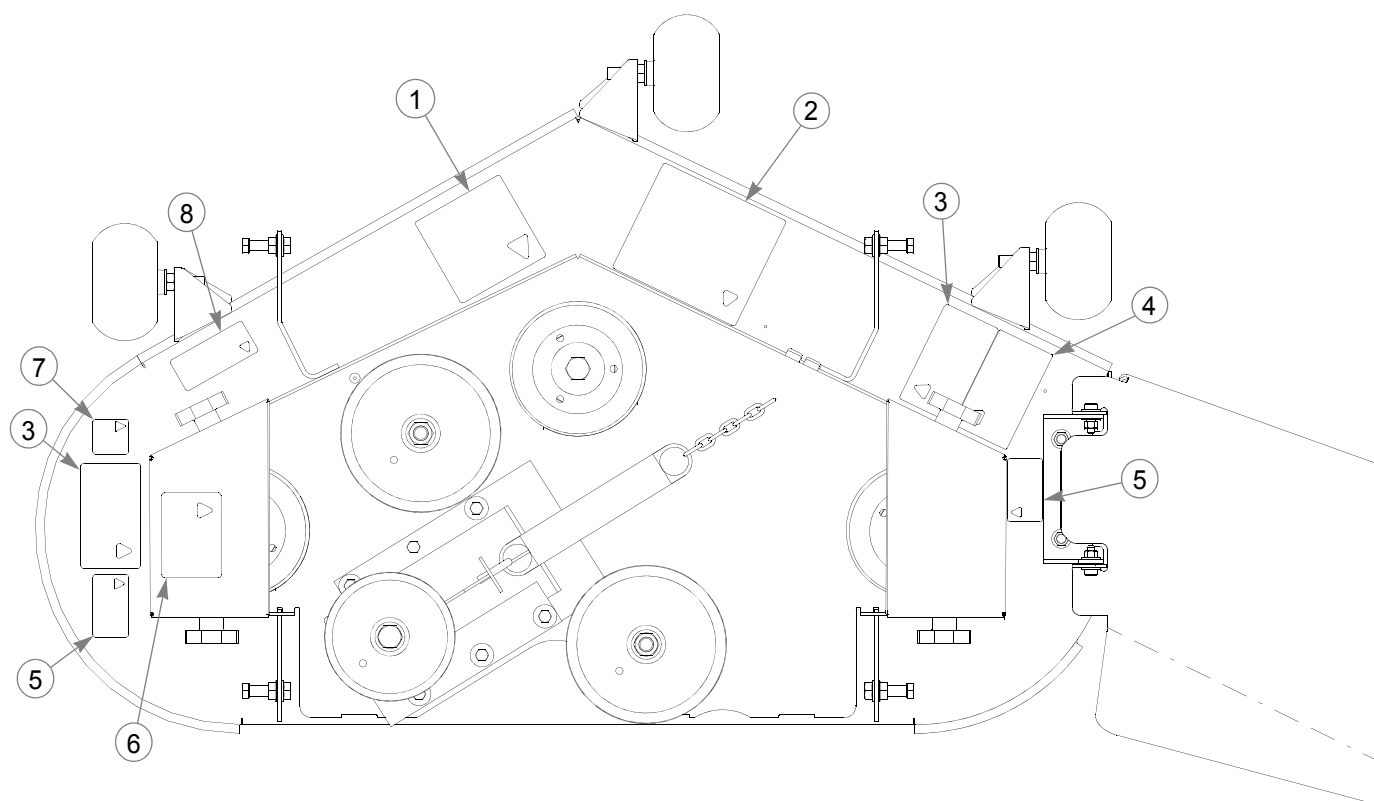
52" Deck Decals



INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY.	DESCRIPTION
1	781419	781419	1	BELT ROUTING DECAL
2	760637	760637	1	MOWER DECK QUICK REF DECAL
3	727438	727438	2	WHIRLING BLADES DECAL
4	727420	727420	1	DEFLECTOR SHIELD DECAL
5	727453	727453	2	BELT & PULLEY DECAL
6	785535	785535	1	DECK I.D. 52" DECAL
7	727172	727172	1	"MADE IN U.S.A." DECAL
8	797845	797845	1	FUSION DECAL

NOTES:

44" Deck Decals



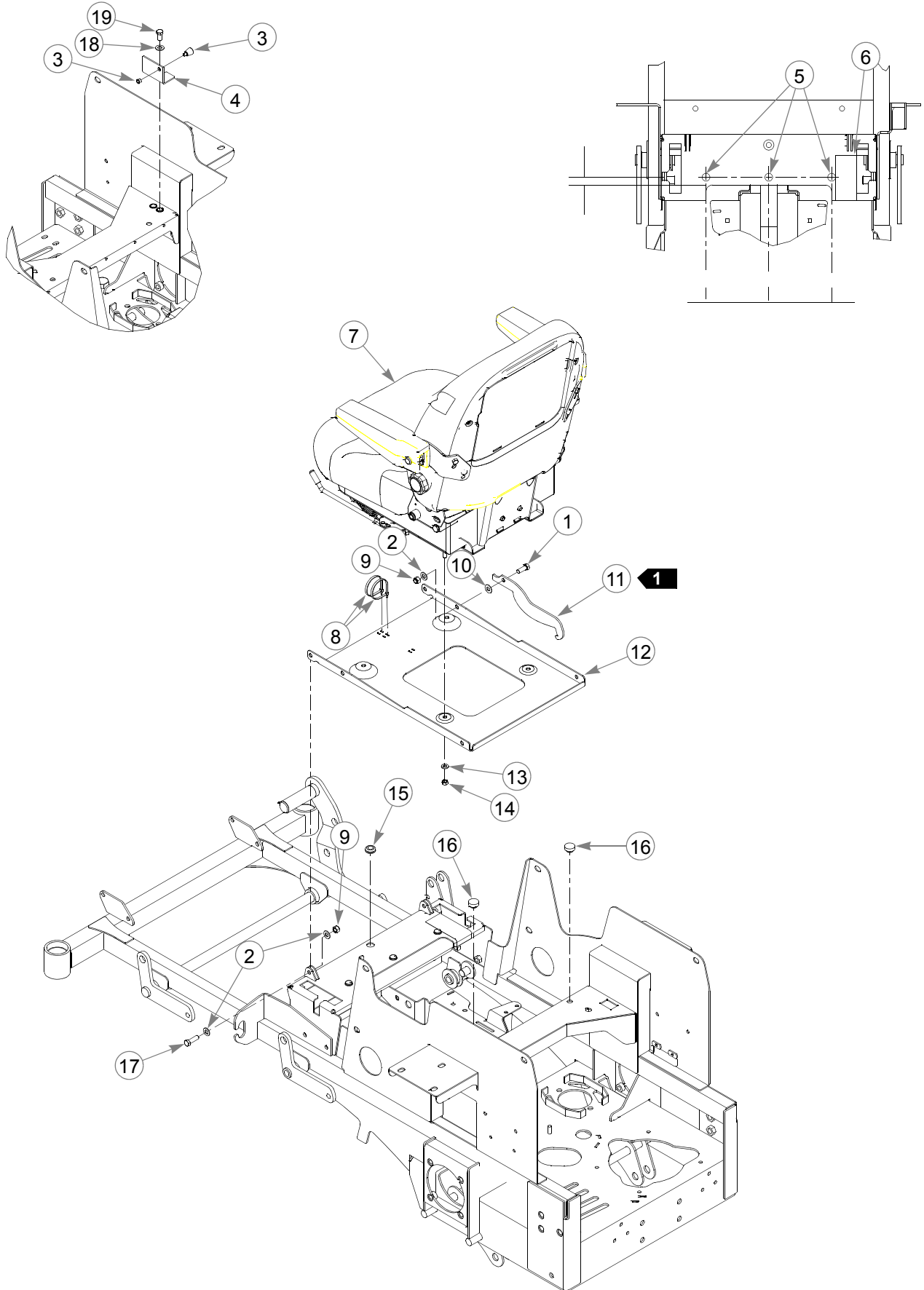
INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY.	DESCRIPTION
1	781419	781419	1	BELT ROUTING DECAL
2	760637	760637	1	MOWER DECK QUICK REF DECAL
3	727438	727438	2	WHIRLING BLADES DECAL
4	727420	727420	1	DEFLECTOR SHIELD DECAL
5	727453	727453	2	BELT & PULLEY DECAL
6	784801	784801	1	DECK 44" ID DECAL
7	727172	727172	1	"MADE IN U.S.A." DECAL
8	797845	797845	1	FUSION DECAL

NOTES:

Chapter 10 Contents

Seat Installation	10-2
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Seat Installation



Seat Installation

INDEX NO.	SERVICE PART NO.	MFG. PART NO.	QTY.	DESCRIPTION
1	036244	036244	1	CS .375-16 X 1.00 HX G5 ZNYC
2	767954	767954	5	FW .406 X .812 X .060 SAE HD ZN
3	748756	748756	1	SPRING PLUNGER LATCH
4	389940	389940	1	SEAT LATCH BRACKET
5	781617	781617	3	RUBBER BUMPER
6	722199	722199	1	2" WIDE SCOTCH POLYURETHANE 6"
7	792051	792051	1	SEAT
8	000331	000331	3	SMALL/SHORT WIRE TIE
9	086660	086660	3	NT .375-16 HX LK NY
10	724716	724716	1	FIBER WASHER
11	350421	350421	1	SEAT PAN STOP
12	388983	388983	1	SEAT PAN
13	768523	768523	4	FW .343 X .687 X .051/.080 HD ZNYC
14	034272	034272	4	NT .312-18 HX G5 ZNYC
15	080358	080358	1	GM .50 X 1.00 X .75 X .12
16	781880	781880	2	.500 X 1.00X .312 X.188 BUMPER
17	052860	052860	2	CS .375-16 X 1.25 HX G5 ZNYC
18	768523	768523	2	FW .343 X .687 X .051/.080 HD ZNYC
19	055822	055822	2	CS .375-16 X .75 HX G5 ZNYC

NOTES:

1. Must pivot freely.
2. Service parts available for Michigan seats:

<u>PART NO.</u>	<u>DESCRIPTION</u>
793307	SLIDE KIT
793323	KNOB KIT
793281	BACK CUSHION KI
793299	SEAT CUSHION KIT
797571	SEAT BACK PANEL KIT
793315	SEAT SWITCH
797480	ONE ARMREST (ROUND STYLE W/O BRACKET))
793265	ONE ARMREST (SQUARE STYLE W/O BRACKET)
793273	ARMREST STOP ASSEMBLY

3. Service parts available for Milsco seats:

<u>PART NO.</u>	<u>DESCRIPTION</u>
782144	ADJUSTER, STANDARD AND LOW PROFILE SUSPENSION SEAT
782177	OPERATOR PRESENCE SWITCH
783472	Z ARMREST ONLY KIT

Chapter 11 Contents

Maintenance & Adjustments Safety Precautions	11-3
Maintenance	11-7
Adjustments	11-15

SAFETY PRECAUTIONS



This safety alert symbol is used to call attention to a message intended to provide a reasonable degree of **PERSONAL SAFETY** for operators and other persons during the normal operation and servicing of this equipment.

DANGER – denotes immediate hazards which **WILL** result in severe personal injury or death.

WARNING - denotes a hazard or unsafe practice which **COULD** result in severe personal injury or death.

This manual uses two other words to highlight information. **IMPORTANT** calls attention to special mechanical information and **NOTE**: emphasizes general information worthy of special attention.

All operators/mechanics should read this manual, or be instructed about safe operating and maintenance procedures. This is the owner's responsibility.

Improper use or maintenance by the operator, mechanic, or owner can result in injury. To reduce the potential for injury, comply with these safety instructions and always pay attention to the safety alert ▲ symbol, which means DANGER or WARNING - "personal safety instructions." Failure to comply with the instructions may result in personal injury or death.

Incorrect usage of this machine may result in severe injury. Personnel operating and maintaining it should be trained in the proper use and should read the manuals completely and thoroughly before attempting to set-up, operate, adjust, or service this machine.

The Quick Reference Decals, located in front of and to the right of the seat, are designed to give the operator/mechanic brief information needed in the daily operation and service of the machine. These decals are not intended to be used in place of this manual but instead is to be used as an extension of this manual. These decals should not be removed or obliterated. Replace these decals if they become unreadable.

It is the **owner's responsibility** to make certain that the operator/mechanic reads and understands this manual and all decals before operating this machine. It is also the **owner's responsibility** to make certain that the operator/mechanic is a qualified and physically able individual, properly trained in the operation of this equipment. Local regulations may restrict the age of the operator/mechanic.

The owner should also ensure that the operator/mechanic know that they are responsible for their own safety as well as the safety of other persons within the vicinity. **Remember**, the operator/mechanic is responsible for accidents or hazards occurring to other people or their property.

Safe Maintenance & Adjustment Practices

This product is capable of amputating hands and feet and throwing objects. Always follow all safety instructions to avoid serious injury or death.

- ▲ Unless specifically required, **DO NOT** have engine running when servicing or making adjustments to tractor. Place control levers in the park brake position, disengage deck clutch, remove ignition switch key and disconnect the negative battery cable. Repairs or maintenance requiring engine power should be performed by trained personnel only. To prevent carbon monoxide poisoning, be sure proper ventilation is available when engine must be operated in an enclosed area.
- ▲ Follow daily and weekly checklists, making sure hoses are tightly secured and bolts are tightened.
- ▲ Keep your machine clean and remove any deposits of trash and clippings, which can cause engine fires and hydraulic overheating as

well as excessive belt wear. Clean up oil or fuel spillage. Allow machine to cool before storing.

- ▲ **Clean flammable material from machine. Prevent fires by keeping engine compartment, battery, hydraulic lines, fuel line, fuel tank and operator's station clean of accumulated trash, grass clippings, and other debris. Always clean up spilled fuel and oil.**
- ▲ Always wear adequate ear protection, such as earplugs, when operating this equipment as prolonged exposure to uncomfortable or loud noises can cause impairment or loss of hearing. Do not wear radios or music headphones while operating the machinery. Safe operation requires your full attention.
- ▲ Never put hands or feet under any part of the machine while it is running.
- ▲ Except when changing or checking belt, **always** keep belt covers on mower for safety as well as cleanliness.
- ▲ Stop the engine before removing the grass catcher or unclogging the discharge chute. Never clear the discharge chute with the engine running. Turn off the engine and be sure the blades have stopped before cleaning. Use a stick to clear a plugged discharge area. **Never use your hand!**
- ▲ Exercise caution when loading or unloading the machine onto a trailer or truck.
- ▲ Always wear safety goggles or safety glasses with side shields when operating the mower.
- ▲ Never leave machine unattended with ignition key in switch, especially with children present.
- ▲ Be alert and turn the machine off if children enter the area.
- ▲ Always wear adequate eye protection when servicing the battery, hydraulic system, cooling system or when grinding mower blades and removing accumulated debris.
- ▲ Use extra caution when handling gasoline and other fuels. They are flammable and vapors are explosive.
- ▲ Never refuel tractor while engine is running; never refuel near an open flame or near devices which can create a spark. Refuel outdoors preferably, or in well ventilated areas.
- ▲ Never attempt to start engine when there is a strong odor of gasoline fumes present. Locate and correct cause.
- ▲ Never run the engine in an enclosed area unless exhaust is vented to the outside. Exhaust gases contain carbon monoxide which is odorless and deadly poison.
- ▲ Never attempt to make any adjustments or repairs to the tractor drive system, mower deck or any attachment while the tractor engine is running or deck clutch is engaged. Repairs or maintenance requiring engine power should be performed by trained personnel only.
- ▲ Never work under the machine or attachment unless it is safely supported with jack stands. Make certain machine is secure when it is raised and placed on the jack stands. The jack stands should not allow the machine to move when the engine is running and the drive wheels are rotating. **Use only certified jack stands.** Use only appropriate jack stands, with a minimum weight rating of 2000 pounds to block the unit up. Use in pairs only. Follow the instructions supplied with the vehicle stands.
- ▲ Before working on or under the deck, make certain engine cannot be accidentally started. Shut engine off and remove ignition switch key for maximum safety. Repairs or maintenance requiring engine power should be performed by trained personnel only.
- ▲ Use a stick or similar instrument to clean under the mower making sure that no part of the body, especially arms and hands are under mower.
- ▲ Exercise caution when working under the deck as the mower blades are extremely sharp. Wearing gloves or wrapping the blade(s) is advisable when working around or with the blades.
- ▲ Do not touch hot parts of machine.
- ▲ Keep nuts and bolts tight, especially the blade attachment bolts. Keep equipment in good condition.
- ▲ Never tamper with safety devices. Check their proper operation regularly.

- ▲ Grass collection system components are subject to wear, damage and deterioration, which could expose moving parts or allow objects to be thrown. Frequently check components and replace with manufacturer's recommended parts, when necessary.
- ▲ Use only genuine Hustler replacement parts to ensure that original standards are maintained

Using a ramp

- ▲ Use extreme caution when loading and unloading a unit with a ramp.
- ▲ Use only a single, full width ramp; do not use individual ramps for each side of the unit. Having a full width ramp provides a surface for the tractor frame to contact if the unit starts to tip backwards. It also reduces the risk of a wheel going off and the machine tipping over.
- ▲ Do not exceed a 15 degree angle between the ramp and the ground or between the ramp and the trailer or truck.
- ▲ When on a ramp avoid sudden acceleration

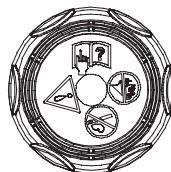
Safety and Instruction Decals

- ▲ Specific safety warning decals are located on the equipment near the immediate areas of potential hazards. These decals should not be removed or obliterated. Replace them if they become non-readable.

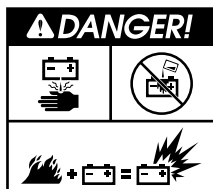
The following illustrations show the various **safety decals** that are located on the machine. A brief explanation is shown to help the operator understand the meanings of these decals.



Read Owner's Manual and Quick Reference Decal before attempting to operate this machine.



Do not smoke while refueling.
Do not fill tank with engine running, or while the engine is hot.
Allow engine to cool before storing machine inside a building.
Store away from open flame or spark if there is fuel in tank.
Clean up any gasoline spills.
Do not refuel while in enclosed trailer or other enclosed areas



Part Number
727016

Avoid skin contact with battery acid.
Always wear eye protection when checking the battery, acid can cause serious injury to skin and eyes. If contact occurs, flush area with clean water and call physician immediately. Acid will also damage clothing.
Do not allow open flame near the battery when charging.
Hydrogen gas forms inside the battery. This gas is both toxic and flammable and may cause an explosion if exposed to flame. Always remove the negative ground first and replace it last.
Do not overfill battery.
Electrolyte may overflow and damage paint, wiring or structure. When cleaning the battery, use soap and water. Be careful not to get soap and water into the battery. Use soda mixed in water to clean corrosion off the terminals.



Part Number
727008

Hydraulic fluid escaping under pressure can penetrate skin.
Hydraulic fluid may also cause infection in a minor cut or opening in the skin; if exposed to hydraulic fluid, see a doctor at once.
Before applying pressure to hydraulic system, make sure all connections are tight and all hoses and lines are in good condition.
Relieve all pressure in the system before disconnecting or working on hydraulic lines.
To find a leak under pressure, use a piece of cardboard or wood – never use your hands.
To relieve all pressure in system, turn engine off and lower attachment.



Part Number
771436

Do not remove or modify stabilizer wheels or rear engine guard or injury can result.
Never stop suddenly while backing down slopes. This action may result in a reaction of the tractor that can cause serious physical injury.



Part Number
727420

Never operate the mower deck with side deflector removed or in raised position, except when the grass catcher attachment is being used.



Part Number
727453

Keep shields or covers in place while machine is in operation.
Keep hands away from rotating pulleys and belts.



Part Number
779280

Hot surface!



Part Number
788968

Keep engine and pump compartment(s) clean (especially in exhaust area) to prevent fire and provide maximum engine and hydraulic cooling.



Part Number
600899

If you loose steering control while operating the machine, place the steering control levers in the park brake position immediately. Inspect the machine and involve your Hustler dealer to resolve the problem before continuing to operate.
If pump belt fails, steering control will be lost. Refer to owner's manual for inspection and replacement intervals and refer to above paragraph for emergency procedures.



Part Number
727438

Whirling blades! Keep hands and feet away.
Beware of thrown objects.

MAINTENANCE

MAINTENANCE LOCATOR CHART

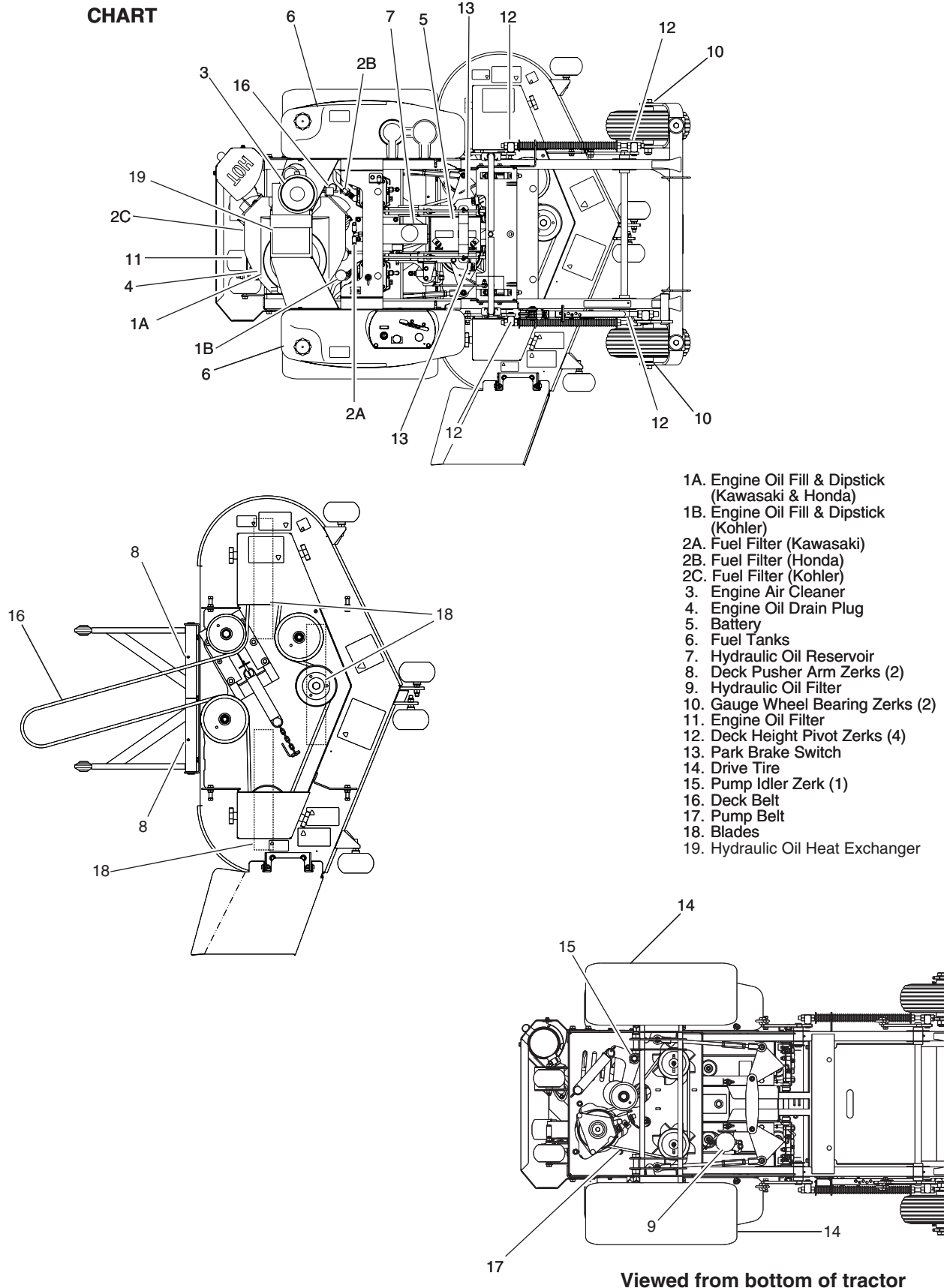


Figure 11-1

SERVICE AT INTERVALS INDICATED	WEEKLY OR 50 HOURS	MONTHLY OR 100 HOURS	ANNUALLY OR 500 HOURS
Verify safety start interlock system	Daily		
Visually inspect unit for loose hardware and/or damaged parts	Daily		
Visually inspect tires	Daily		
Check oil level, engine (1)	Daily or every 4 hrs.		
Clean air intake screen (5)	Daily or every 4 hrs.		
Clean oil heat exchanger (5)	Daily or every 4 hrs.		
Check fuel level	Daily		
Blades - sharpen & securely fastened	Daily		
Discharge chute - securely in place & in lowest position	Daily		
Clean engine and pump compartments	Daily		
Replace air cleaner paper element (5)	As needed		
Grease deck pusher arms	x		
Grease pump idler	x		
Grease deck height pivots	x		
Grease gauge wheel bearings	x		
Change engine oil & filter (1) (4)	x		
Clean cylinder and head fins (a)	x		
Check battery connections	x		
Check tire pressure with a gauge	x		
Check hydraulic oil level	x		
Clean engine exterior (a)	x		
Clean and regap spark plugs (a)		x	
Check pump and deck belt tension & condition (6)		x	
Check fuel and hydraulic lines (7)		x	
Check fuel valve and grommet (7)		x	
Tighten lug nuts on wheels (2)		x	
Change fuel filter			x
Clean or replace hydraulic fill cap			x
Change hydraulic filter and oil (3)			x
Replace spark plugs			x

NOTES:

- Initial oil change is after 5 hours of operation. Thereafter, change oil after every 40 hours operation. Change more often under dusty or dirty conditions and during hot weather periods.
- Torque initially and after first 2 hours of operation.
- Perform initial hydraulic filter change after 50 hours (one week) of operation.
- Change engine oil filter per the engine manufacturer's recommendations. Refer to Engine Owner's Manual for recommendations and other maintenance items.
- Service more often under dusty or dirty conditions. Use caution when servicing to prevent dust contamination in the engine. **Do not** clean filter element. Replace with a new one.
- Pump drive belt only - Inspect every 100 hours** and replace if worn or cracking is noticed. Otherwise, **replace every 400 hours or 2 years** whichever comes first.
- Check fuel line hoses, fuel valve and grommet for any cracks or leaks.

REFERENCES:

- a — Refer to Engine Owner's Manual

NOTE: After completing maintenance cycle (500 hours), repeat cycle.

Introduction

Regular maintenance is the best prevention for costly downtime or expensive, premature repair. The following pages contain suggested maintenance information and schedules which the operator should follow on a routine basis.

Remain alert for unusual noises, they could be signaling a problem. Visually inspect the machine for any abnormal wear or damage. A good time to detect potential problems is while performing scheduled maintenance service. Correcting the problem as quickly as possible is the best insurance.

Clear away heavy build-up of grease, oil and dirt, especially in the engine and hydraulic reservoir area; minute dust particle are abrasive to close-tolerance engine and hydraulic assemblies.

Daily inspect mower for grass clippings and wire and string tangles. The underside of the mower deck will collect a build-up of grass clippings and dirt, especially when grass is wet or has high moisture content. This build-up will harden, restricting blade and air movement and will probably show a poorer quality of cutting. Therefore it should be removed routinely.

To do this it will be necessary to raise and block the deck in the full up position and scrape the build-up from underneath.

Some repairs require the assistance of a trained service mechanic and should not be attempted by unskilled personnel. Consult your Hustler service center when assistance is needed.

Torque values



WARNING: Particular attention must be given to tightening the drive wheel lug nuts, wheel motor nuts, and blade spindle bolts. Failure to correctly torque these items may result in the loss of a wheel or blade, which can cause serious damage or personal injury.

Torque values given below:

	Ft-lbs.	Nm
Wheel (lug) nuts.....	65-75	88.14-101.7
Wheel motor nut	290-310	393.2-420.4
Blade spindle bolt top	118	160.01
Blade spindle bolt bottom	118	160.01

It is recommended that these be checked after the first 2 hours of operation, initially and every 50 hours following removal for repair or replacement.

For all other torques refer to the tractor parts manual for standard torque chart.

For engine torque values, see engine owner's manual.

Tires

It is important for level mowing that the tires have the same amount of air pressure. The recommended pressure are:

Drive wheels.....	8-10 psi
Gauge wheels	8-10 psi

Solid fill tires are not recommended for Hustler turf equipment. On any machine, with solid filled tires, the warranty claim will be denied.



WARNING: Explosive separation of a tire and rim can cause serious injury or death.



Do not attempt to mount a tire without the proper equipment and experience to perform the task.

Always maintain the correct tire pressure and never over inflate.

Never weld or heat a wheel and tire assembly as an explosion may occur. Welding can weaken or deform a wheel.

When inflating tires stand to one side and **not** in front of or over the tire assembly.

Check tires for low pressure, blemishes, damaged rims or missing lug bolts and nuts.

Hour meter

To recognize when your machine needs servicing, check the hour meter and the maintenance schedule. The hour meter shows the number of hours the engine has run and the maintenance schedule lists the service intervals. Fig. 11-2

Lubrication

- Grease the front gauge wheel bearings per the Maintenance Schedule. Use SAE multi-purpose grease.
- Grease the four deck lift pivots, located to the side of the operator's footrest per the Maintenance Schedule. Use SAE

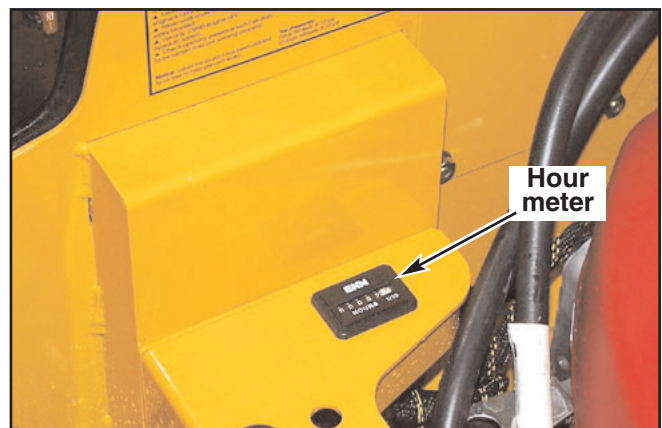


Figure 11-2

multi-purpose grease.

3. Grease the pump idler per the Maintenance Schedule. Use SAE multi-purpose grease.
4. Grease the two deck pusher arm pivots per the Maintenance Schedule. Use SAE multi-purpose grease.

Electrical system

The electrical system is a 12 volt, negative ground. Recommended battery size is a garden tractor BCI group U1R with 225 or better cranking AMP rating. A maintenance-free battery is recommended. Otherwise, follow battery manufacturer's maintenance, safety, storing and charging specifications.

The battery is located under the seat. Fig. 11-3



WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to cause cancer and reproductive harm. Wash hands after handling.



WARNING: Avoid skin contact with battery acid.

Always wear eye protection when checking the battery, acid can cause serious injury to skin and eyes. If contact occurs, flush area with clean water and call physician immediately. Acid will also damage clothing.

Do not allow open flame near the battery when charging.

Hydrogen gas forms inside the battery. This gas is both toxic and flammable and may cause an explosion if exposed to flame. Always remove the negative ground first and replace it last.

Do not overfill battery.

Electrolyte may overflow and damage paint, wiring or structure. When cleaning the battery, use soap and water. Be careful not to get soap and water into the battery. Use soda mixed in water to clean corrosion off the terminals.



WARNING: Shorts caused by battery terminals or metal tools touching metal tractor components can cause sparks. Sparks can cause a battery gas explosion which will result in personal injury. Prevent the battery terminals from touching any metal tractor parts when removing or installing the battery.

Do not allow metal tools to short between the battery terminals and metal tractor parts.



WARNING: Incorrect battery cable routing could cause damage to the tractor and battery cables. This can cause sparks which can cause a battery gas explosion which will result in personal injury. Always **disconnect** the negative (black) battery cable before disconnecting the positive (red) cable.

Common circuit failures are usually caused by shorting, corroded or dirty terminals; loose connections, defective wire insulation or broken wires. Switches, solenoids and ignition components may also fail, causing a shorted or open circuit.

Before attempting any failure diagnosis of the electrical system, use a test light or voltmeter to check the battery voltage. If the battery voltage is satisfactory, check the cleanliness and tightness of the terminals and ground connections. A general understanding of electrical servicing and use of basic test equipment is necessary for troubleshooting and repair.

Major overhaul or repair of the starting motor or alternator should be performed by trained technicians only.

Burnishing the electric clutch



WARNING: To insure maximum performance and life, it is necessary to burnish the clutch.

Super Mini Z units built with **serial number 03120228 and later** were built with Warner clutches. It is **not** necessary to burnish these clutches.

Super Mini Z units built **prior to serial number 03120228** were built with Ogura clutches. Occasionally it may be necessary to burnish the clutch.

Burnishing the Ogura clutch (Fig. 11-4) will develop better contact between the armature and rotor, helping to develop higher torque capabilities without slipping. The warranty on the new clutch will be

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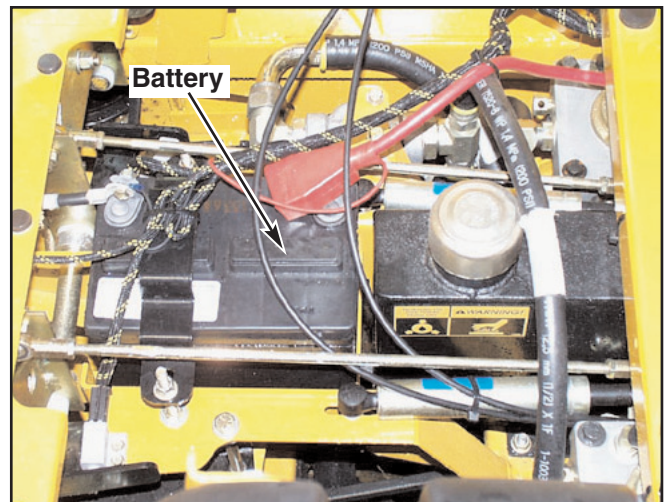


Figure 11-3

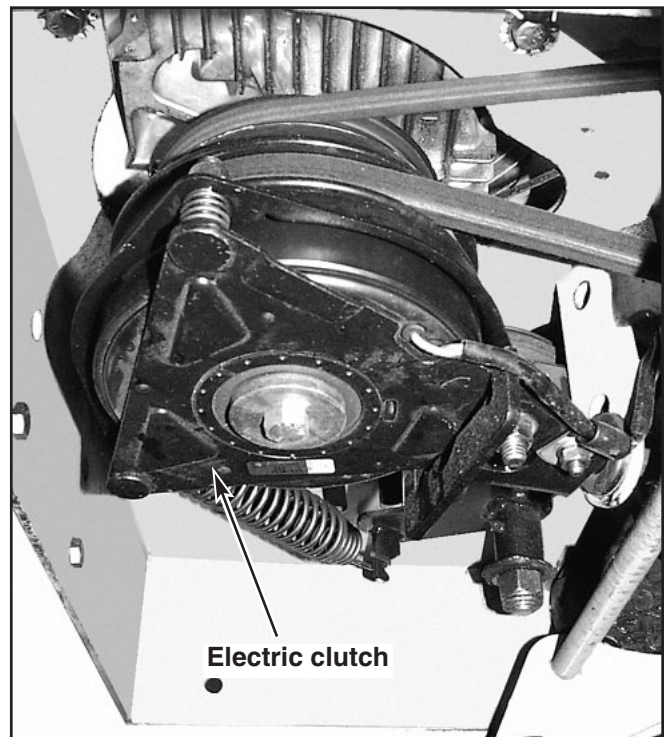


Figure 11-4

voided if it is not burnished properly.

Use the following procedure to burnish the clutch:

1. Check the air gap between armature and rotor. Gap should be .012" to .024".
2. Cycle the clutch on and off 10 times (15 seconds on and 15 seconds off) with the engine operating at half throttles, approximately 1500 rpm.

Access to engine and hydraulic pumps

The hydraulic pumps are accessed by lifting the seat platform. The seat platform is hinged at the front. To raise it, release seat latch and tilt seat platform up and forward. The seat platform catch (Fig. 11-5) will prevent the seat from going all the way over. However, if more access is desired under the seat platform, the seat platform catch can be raised allowing the seat to pivot more. **Make certain to place the control levers in the park brake position and pivot the arm rests upward before placing the seat platform in the full forward position to prevent arm rest damage.**



WARNING: Always wear adequate eye protection when servicing the hydraulic system and battery.

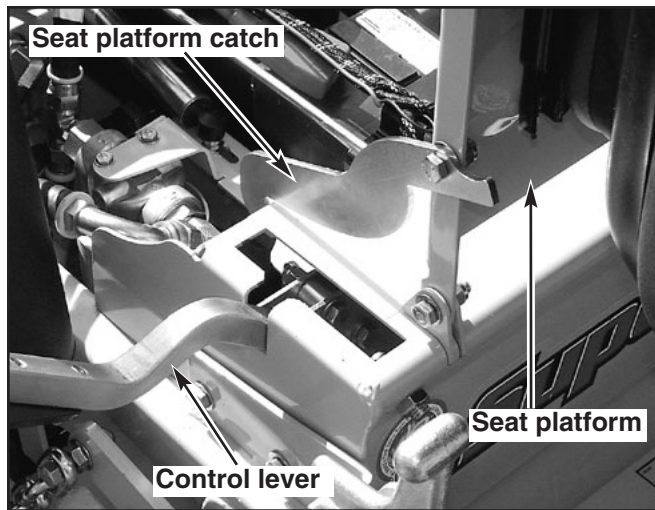


Figure 11-5

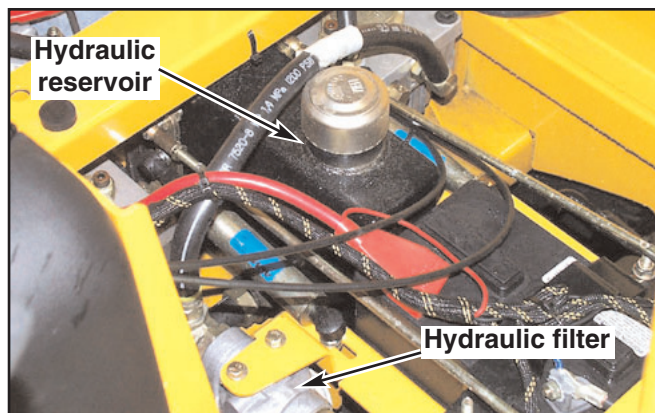


Figure 11-6

Hydraulic system

IMPORTANT: Never use hydraulic or automatic transmission fluid in this system; use only motor oil as specified. Remember, dirt is the primary enemy of any hydraulic system.



WARNING: Hydraulic oil escaping under pressure can penetrate skin. Hydraulic oil may cause infection in a minor cut or opening in the skin. If exposed to hydraulic fluid, see a doctor at once. Before applying pressure to hydraulic system, make sure all connections are tight and all hoses and lines are in good condition. To find a leak under pressure, use a piece of cardboard or wood — **never** use your hands. Relieve all pressure in the system before disconnecting or working on hydraulic lines. To relieve pressure, lower all attachments and shut off engine.

The 1.0 U.S. gallon (3.79 liter) hydraulic reservoir is located in front of the engine and under the operator's platform. Fig. 11-6

Check oil level in hydraulic system after every 50 hours of operation or weekly, whichever occurs first. Check more often if system appears to be leaking or otherwise malfunctioning.

Fluid level should be 1" from top of reservoir. Use only SAE 10W40 SG, SF/CC, CD service motor oil.

Change hydraulic system filter element (Fig. 11-6) after first 50 hours of tractor operation, then replace filter and oil in reservoir every 500 hours thereafter. When changing hydraulic oil use 1/2 unit (approximately 3.5 oz.) of Lubrizol additive (Hustler P/N 027912). This additive, available from your Hustler dealer, will increase the performance life of the hydraulic system components.

The system filter is located to the right of the hydraulic reservoir. A standard oil filter wrench is used to change filter, threads are right handed. Use a **Hustler approved filter element only**.

IMPORTANT: Prefill the filter element with clean oil, before installing, to prevent drawing air into the system pump.

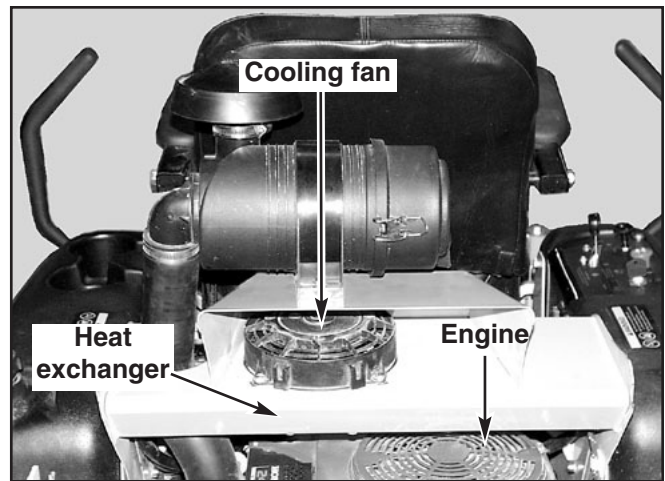


Figure 11-7

1. Fill the filter element with clean system oil. Smear a light coating of oil on upper surface of rubber seal.
2. Install the filter element on base. Tighten the oil filter by hand until the filter seal makes contact with the filter head, then tighten an additional 3/4 turn with an oil filter wrench. — **DO NOT OVERTIGHTEN.**
3. Start tractor engine and let run at approximately 2/3 throttle for a few minutes to work any trapped air out of the system before engaging the steering control lever.
4. Stop the engine and check the filter and connections for leaks.
5. Check the hydraulic reservoir for specified oil level. Add clean oil as necessary.

Clean or replace hydraulic reservoir cap annually. Cap may be cleaned by dipping in or flushing with cleaning solvent. Follow manufacturer's instructions and warnings for application of solvent type selected.

A hydraulic oil heat exchanger is installed on the Super Mini Z. This heat exchanger is designed to keep hydraulic system oil temperature lower in hot operating conditions or heavy continuous operating conditions.

This hydraulic heat exchanger is located above the engine. Air is drawn across the cooling fins by an electric fan located above the heat exchanger. Fig. 11-7

Fuel system



DANGER: Observe usual fuel handling precautions:

Do not smoke while refueling.

Do not fill tank with engine running or while engine is hot. Clean up any gasoline spills.

Allow engine to cool before storing machine inside a building.

Keep fuel away from open flame or spark and store machine away from open flame or spark if there is fuel in the tank.

Use extra caution when handling gasoline and other fuels. They are flammable and vapors are explosive. A fire or explosion from gasoline can burn you and others and can damage property. Refuel outdoors preferably, or in well ventilated areas.

Never attempt to start engine when there is a strong odor of gasoline fumes present. Locate and correct cause.

Store gasoline in an approved container and keep it out of the reach of children. Never buy more than a 30 day supply of gasoline.

Always place gasoline containers on the ground away from your vehicle before filling.

Do not fill gasoline containers inside a vehicle or on a truck or trailer as interior carpets or plastic truck bed liners may insulate the container and slow the loss of any static charge.

When practical, remove equipment from the truck or trailer and refuel the equipment with its wheels on the ground. If this is not possible, then refuel the equipment on the truck or trailer using a portable container and not a gasoline dispenser nozzle. If a gasoline dispenser nozzle must be used, keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete.



Figure 11-8



WARNING: Gasoline is harmful or fatal if swallowed. Long-term exposure to vapors can cause serious injury and illness. Avoid prolonged breathing of vapors. Keep face away from nozzle and gas tank or conditioner opening. Keep gas away from eyes and skin.

The fuel tanks are located in the tractor's fenders. (Fig. 11-8) Total capacity for the fuel tanks is 12 U.S. gallon (45.4 liter)

Use regular unleaded gasoline with an octane rating of 87 or higher.

The fuel filter (Fig. 11-9A, 11-9B & 11-9C) is installed in the fuel line between fuel tanks and engine fuel pump. Replace filter annually or after every 500 hours of operation, whichever occurs first.

When replacing the fuel filter, check the fuel line hoses and fuel shut-off valve grommet for any cracks or leaks.

On early units a fuel shut-off valve is located on the outlet port of each fuel tank. (Fig. 11-10A) Close these valves (turn clockwise) to prevent fuel flow to the engine.

Current production units have a fuel shut-off valve attached to the crossmember next to the hour meter. (Fig. 11-10B) Close this valve (center position) to prevent fuel flow to the engine. Fig 11-10B shows the valve's two other positions.

Engine oil and filter

Check engine oil daily and after every 4 hours of operation. Crankcase dipstick and oil filler tube are located at the rear of the machine (Fig. 11-11A, 11-11B & 11-11C). Tractor must be setting level when checking oil. Refer to engine manual and maintenance schedule for oil recommendation and capacities.

Change the engine oil and filter after the first 5 hours of operation, per the engine manufacturer's recommendations after that. If tractor is being operated in extremely dirty conditions, then it is recommended oil be changed more frequently.

The oil drain and oil filter are located at the rear of the engine. Fig. 11-11A, 11-11B & 11-11C

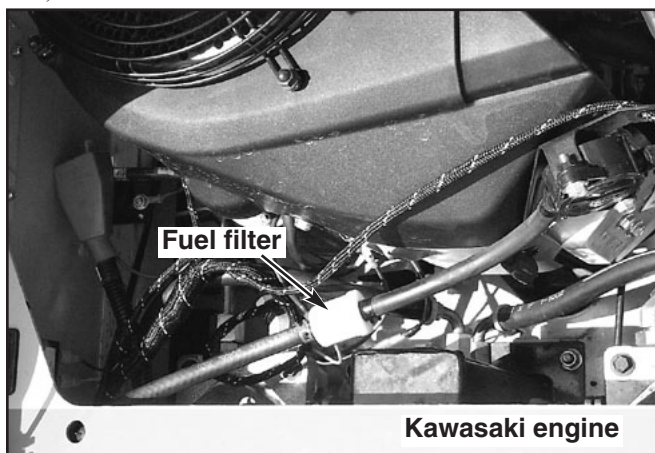


Figure 11-9A

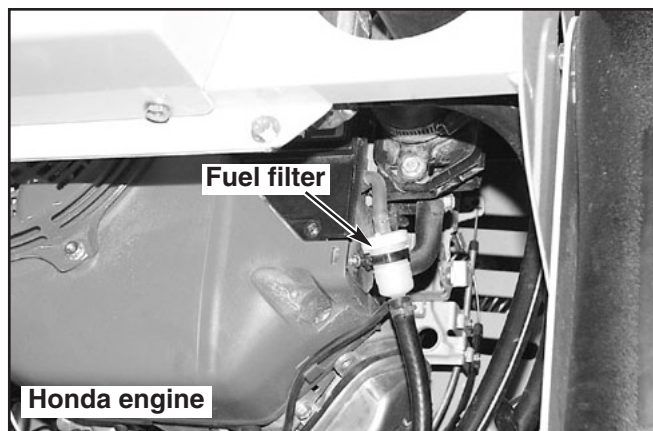


Figure 11-9B

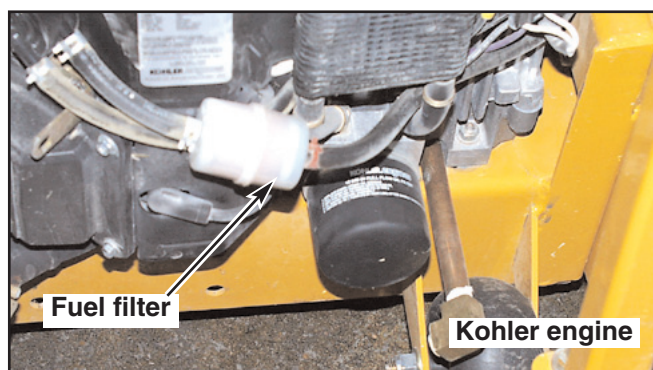


Figure 11-9C

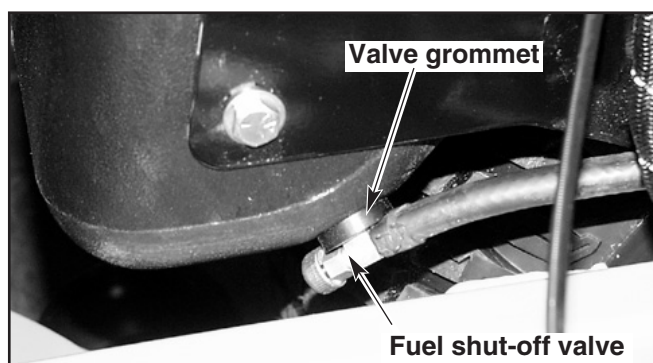


Figure 11-10A

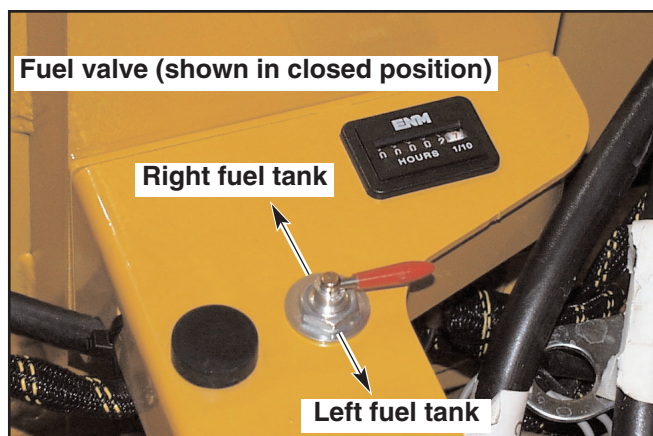


Figure 11-10B

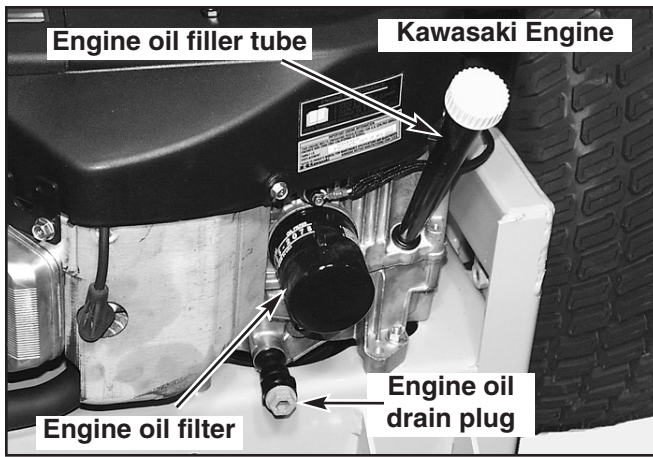


Figure 11-11A

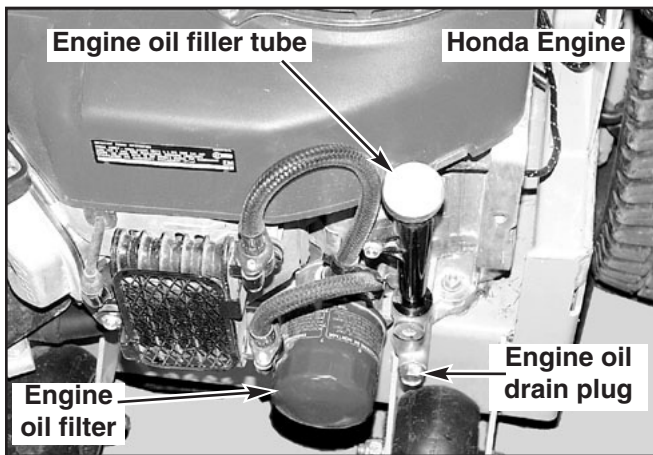


Figure 11-11B

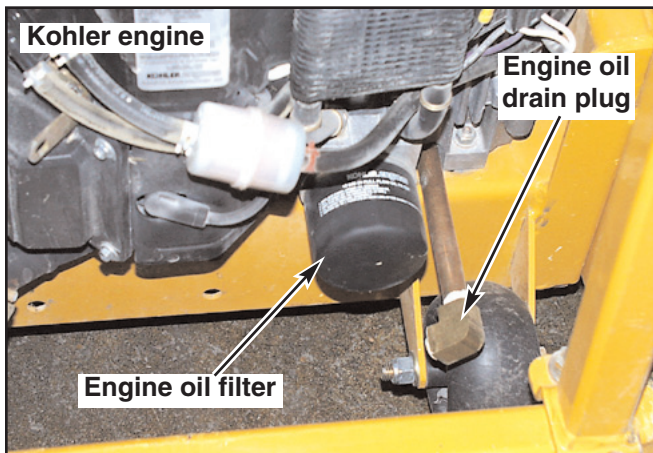


Figure 11-11C

Engine air filter

Perform engine air filter maintenance per the Service Interval chart on page 11-8.

A specially designed dry filter is standard equipment on the Super Mini Z tractors and supplies clean combustion air to the engine. Fig. 11-12

Recommended service procedure

Many engine failures can be attributed to improper air cleaner servicing. Ingested dust and dirt will cause cylinder, piston and bearing damage in a few hours. "Dusted" engines will result from:

1. Overservicing the air filter element.
2. Improper installation.

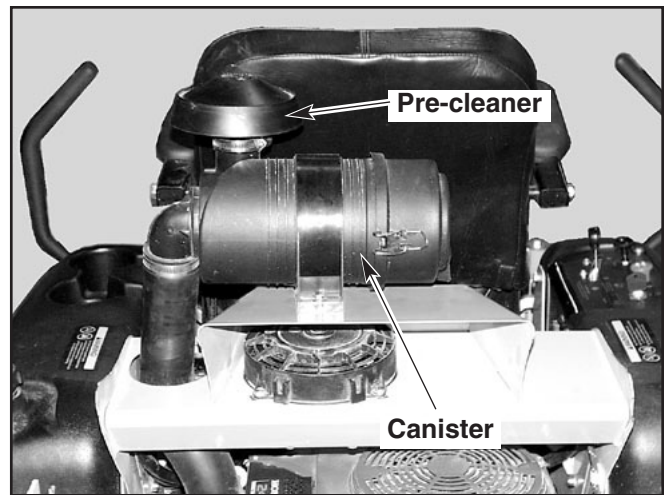


Figure 11-12

3. Damaged filter, seals or canister.
4. Incorrect air filter element size.
5. Use of poorly designed aftermarket air filter elements.

Air cleaner servicing is an inexpensive maintenance check that can prevent costly non-warrantable premature engine damage.

Overservicing

Overservicing occurs when an air filter element is removed for cleaning or replacement before it is necessary. Each time the filter is removed a small amount of dirt and dust could fall in the intake system. This accumulated dirt can cause a dusted engine. It only takes a few grams of ingested dirt over the normal service life of an engine to cause a dusted engine.

Do not clean element, replace with a new element only. Cleaning used air filter elements, through improper cleaning procedures, can get dust on the inside of the filter causing dirt ingestion and engine failure.

It is important to note that whenever an air filter element is cleaned by **any method**, the person or company performing the cleaning assumes responsibility for the integrity of the filter from then on. **The Donaldson warranty for air filters expires upon cleaning or servicing in any manner because the condition of the filter after servicing is completely out of their control. Therefore, on a dust ingested engine failure, there will be no warranty consideration if the air filter element has been cleaned or serviced in any manner.**

A partially dirty air filter element works better than a new element. Therefore, a dirty filter element is not bad for the engine unless it is excessively restricting the air flow and engine performance is affected. The reason is simple. The media in the filter must be porous to allow air to pass through it. When dirty air passes through the filter, the dirt plugs some of the holes in the media and actually acts as part of the filter media. When the next round of dirt enters, the first dirt helps filter out even smaller particles making the filter more efficient at stopping dirt from entering the engine. This is referred to as barrier filtration.

Of course, at some point the filter media becomes too clogged to allow air to pass.

The mowing conditions will determine the frequency of air filter element changing.

Improper installation of an air filter element

Dust must not leak past the seals on each end of the air filter element. The filter must be aligned within the canister and properly seated for an effective seal so that no dirt can enter the engine.

Damaged filter, seals or canister

Never bang or bump the filter element against the tire or any solid object, as dust and dirt particles will be forced through the media causing continual passing of dirt into the engine. Visually inspect the outside of the air cleaner canister periodically for external damage and replace if necessary.

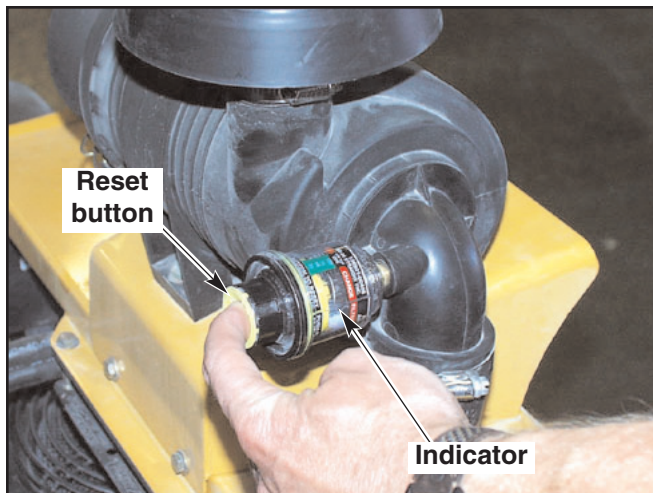


Figure 11-13

Incorrect air cleaner element

Use only the correct Donaldson air filter element, Hustler part number 785261, which is designed to fit the canister properly.

Hustler air filter elements have the correct media composition, filter area, micron size and dimensions. Always use genuine Hustler filters. Many aftermarket filters have been found to be incompatible with Hustler's canisters and engines.

The air filter must remain intact to block passage of dirt and foreign particles from entering the engine. Being inclined to disbelieve the need for more expensive air filter elements used on gasoline engines may cause some individuals to opt for a less expensive part.

The filter element must be sufficient size and construction to withstand stresses, caused by rapid cycling of the air volume demanded by the engine, without cracking or tearing under fatigue and pressure (especially diesel engines). Therefore, Hustler Turf Equipment and the engine manufacturers have carefully selected a reliable filter designed to fit the needs of the engines. The filter specified is a Donaldson filter, Hustler part number 785261.

Owners should be reminded that failure to use original equipment replacement parts is an "alteration" and will not be considered for warranty in the event of engine damage.

Recommended service procedure

1. Release clamps and remove element. Clean the canister with a damp cloth.
2. Before installing a new element, inspect it by placing a bright light inside and rotate the element slowly, looking for any holes or tears in the paper. Also check gaskets for cuts or tears. Do not attempt to use a damaged element which will allow abrasive particles to enter the engine.
3. Reinstall the dust cup. Make sure it seals all the way around the air cleaner body, then tighten the clamps.
4. Check all fittings and clamps periodically for tightness and inspect hoses for holes or cracks.
5. Periodically check the intake hose for signs of ingested dust. Locate and repair the source of ingested dirt.
6. Never operate a machine without an air filter installed.

Air restriction indicator

Any unit with a Kawasaki engine will have an air restriction indicator installed in the air cleaner. Fig. 11-13

Replace the element whenever the restriction indicator shows reaches the change filter red line. Check the indicator daily and replace element as needed or annually whichever occurs first.

Reset the indicator by pushing in on the yellow button after each element change. Fig. 11-13

A restriction indicator takes the guesswork out of air cleaner servicing and allows you to safely benefit from the filter's optimum performance.

General engine maintenance

Detailed instructions and recommendations for break-in and regular

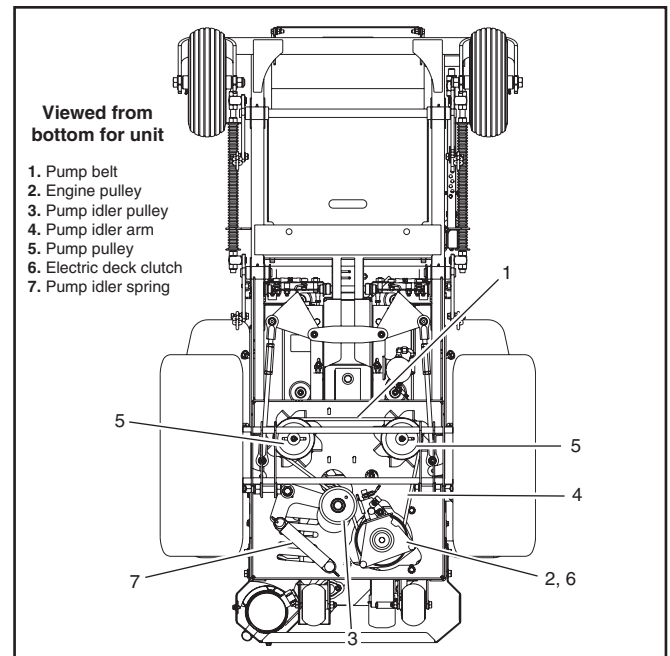


Figure 11-14

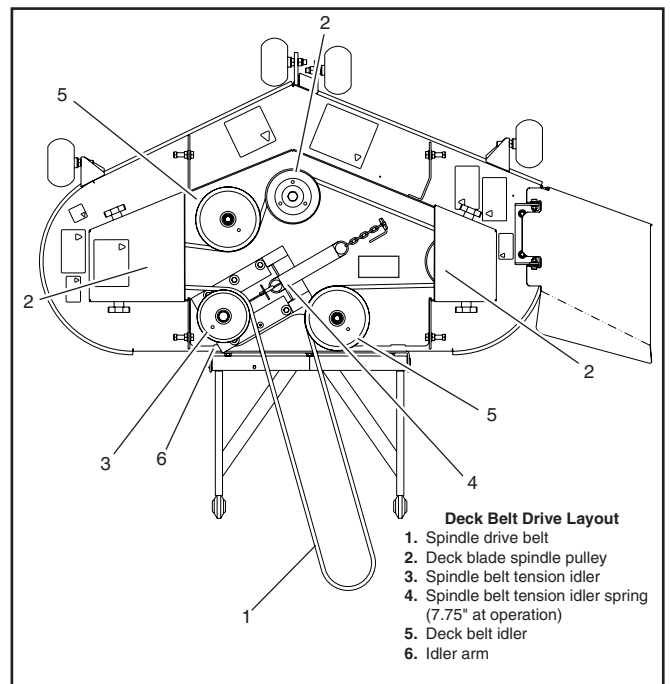


Figure 11-15

maintenance are specified in the Engine Owner's manual. Please refer to this manual for engine servicing, lubricating oil levels with quality and viscosity recommendations, bolt torques, etc. The engine warranty is backed by the manufacturer. Special attention should be paid to applicable data which will not be duplicated here.

Belt replacement

Figures 11-14 and 11-15 show diagrams and descriptions of the unit's belt drive systems.

Inspect these belts frequently for wear and serviceability. Replace a belt that shows signs of severe cuts, tears, separation, weather checking and cracking, or burns caused by slipping. Slight raveling of belt covering does not indicate failure, trim ravelings with a sharp knife.



WARNING: If the pump belt fails, loss of control will occur especially when operating on a slope. **If you lose steering control while operating the machine, place the steering**

control levers in the park brake position immediately. Inspect the machine and involve your Hustler dealer to resolve the problem before continuing to operate.

Inspect the belt pulley grooves and flanges for wear. A new belt, or one in good condition, should never run against the bottom of the groove. Replace the pulley when this is the case, otherwise belt will lose power and slip excessively.

Never pry a belt to get it on a pulley as this will cut or damage the fibers of the belt covering.

Keep oil and grease away from belts, and never use belt dressings. Any of these will destroy the belt composition in a very short time.

Mower blade maintenance

Check the mower blades daily, they are the key to power efficiency and well groomed turf. Keep them sharp, a dull blade will tear rather than cut the grass, leaving a brown ragged top on the grass within a few hours. A dull blade also requires more power from the engine.

Replace any blade which is bent, cracked or broken.



WARNING: Never attempt to straighten a bent blade by heating, or weld a cracked or broken blade as the blade may break and cause serious injury.



DANGER: Never work with blades while engine is running or deck clutch is engaged. Always place deck clutch in the **disengaged** position, engage parking brake and neutral lock levers and turn engine off. Block up mower when you **must** work under it. Wear gloves when handling blades. **Always check for blade damage** if mower strikes rock, branch or other foreign object during mowing!

Mower blade removal

Use a 15/16" wrench to remove the 5/8" cap screw holding the blade to the spindle shaft from underneath.

Sharpen the blades on a grinder following pattern as shown (Fig. 11-16). Touch-up sharpening can be done with a file.

Check the blades for balance following grinding. A commercial balancing tool is available through most hardware supply stores, or balancing can be done by placing the blade on an inverted line punch or 5/8" bolt. Blade should not lean or tilt. Spin the blade slowly, blade should not wobble. If blade is out of balance, true it up before reinstalling.

Lay the blade on a flat surface and check for distortion (Fig. 11-17 and 11-18). Replace any distorted blade.

Do not re-use spindle bolts which have stripped, worn or undercut threads. Torque bolts to 118 foot-pounds when reinstalling blades.



WARNING: When mounting blades, rotate them after installation to ensure blade tips do not touch each other or sides of the mower.



WARNING: Failure to correctly torque the bolt may result in the loss of the blade which can cause serious injury.



WARNING: Mower blades are sharp and can cut. Wrap the blade(s) or wear gloves and use extra caution when servicing them.

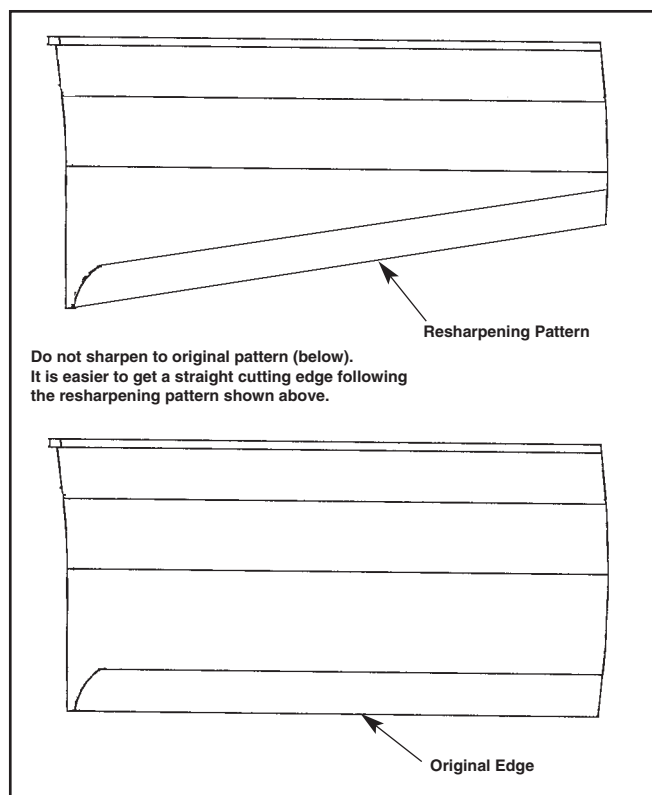


Figure 11-16

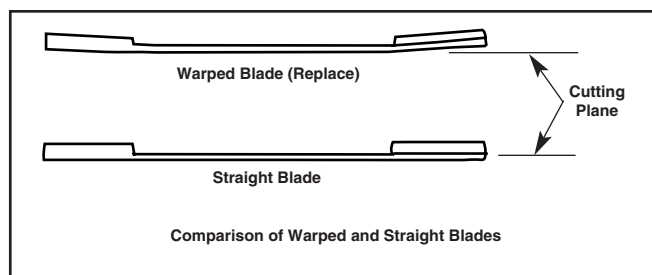


Figure 11-17

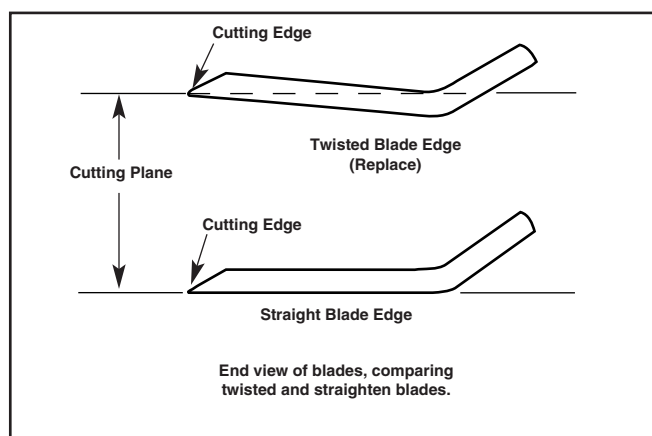


Figure 11-18

ADJUSTMENTS

Introduction

Your Super Mini Z was adjusted before it left the factory and was checked during predelivery setup. However, after start-up and continued use, a certain amount of break-in wear will cause some adjustments to change.

Remain alert for unusual noises, they could be signaling a problem. Visually inspect the machine for any abnormal wear or damage. A good time to detect potential problems is while performing scheduled maintenance service. Correcting the problem as quickly as possible is the best insurance.

Clear away heavy build-up of grease, oil and dirt, especially in the area of reservoir and oil and engine combustion air; minute dust particle are abrasive to close-tolerance engine and hydraulic assemblies.

Some repairs require the assistance of a trained service mechanic and should not be attempted by unskilled personnel. Consult your Hustler service center when assistance is needed.

Steering linkage

The neutral adjustment for the control levers in the neutral position is discussed in this section.

The tractor steering has been factory adjusted to eliminate creeping when the control levers are in the neutral position (Fig. 11-19). However, should the tractor begin to creep, the control lever linkage can be adjusted as follows:

Control Lever Neutral Adjustment

Before considering any adjustment, check the tire air pressure and make certain hydraulic system oil is at operating temperature. Unequal tire pressure will cause the tractor to drift to one side. Refer to tire pressure information in the Maintenance section of this manual.

Fine adjustment to the unit's steering is made with the adjustable pump linkage rods located between the control lever and pump arms. Fig. 11-20

Neutral is properly adjusted when the control levers are in the neutral position and the drive wheels are not turning.

If the tractor creeps in the neutral position the control linkage may be adjusted as follows:

1. Raise and block the tractor up so the drive wheels are off of the floor.



WARNING: Never work under the machine or attachment unless it is safely supported with jack stands. Make certain machine is secure when it is raised and placed on the jack stands. The jack stands should not allow the machine to move when the engine is running and the drive wheels are rotating. **Use only certified jack stands.** Use only appropriate jack stands, with a minimum weight rating of 2000 pounds to block the unit up. Use in pairs only. Follow the instructions supplied with the vehicle stands

2. Position the control lever in the neutral position. Disengage the deck clutch.
3. Start the engine and observe which way the wheels are rotating.
4. If wheel(s) are rotating forward, loosen the jam nuts on the pump linkage rods and rotate the rod to lengthen the steering control linkage until the wheel(s) come to a stop. Fig. 11-20

NOTE: The left linkage controls the left hydraulic pump and the right linkage controls the right hydraulic pump. Repeat for the opposite side if necessary.

5. If wheel(s) are rotating in reverse then loosen the jam nuts on the pump linkage rods and rotate the rod to shorten the steering control linkage until the wheel(s) come to a stop. Fig. 11-20

NOTE: The left linkage controls the left hydraulic pump and the right linkage controls the right hydraulic pump. Repeat for the opposite side if necessary.

6. When both wheels remain in neutral, tighten the jam nuts to lock the turnbuckle in place.
7. Test again by moving the control levers forward and backward before returning them to the neutral position. If the tires are in

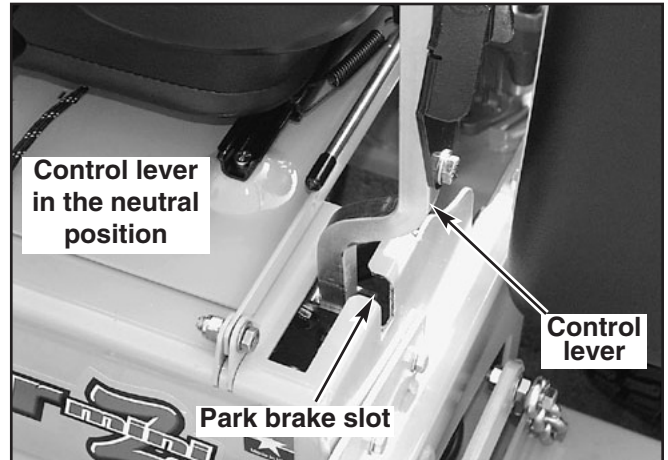


Figure 11-19

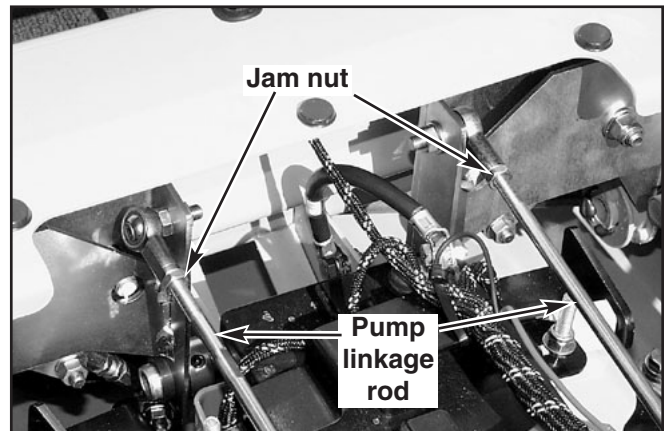


Figure 11-20

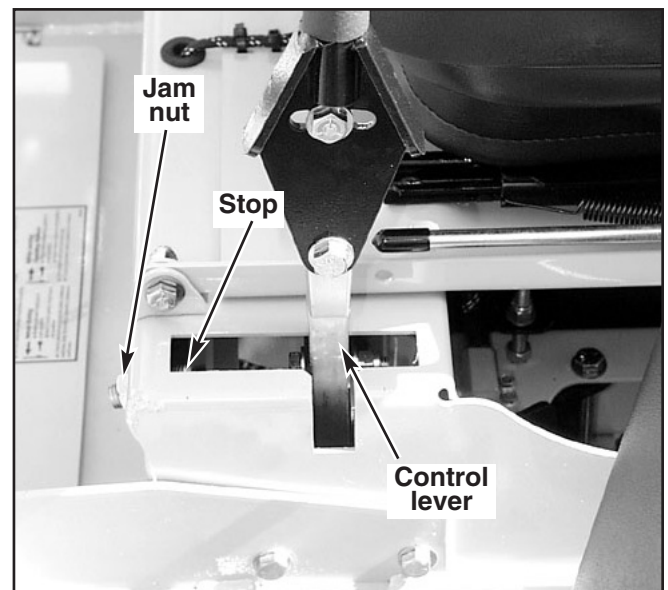


Figure 11-21

neutral, the unit is now ready for operation.

8. After adjusting for neutral it may be necessary to re-adjust the steering dampener and/or the control lever stop. Fig. 11-23 or Fig. 11-24

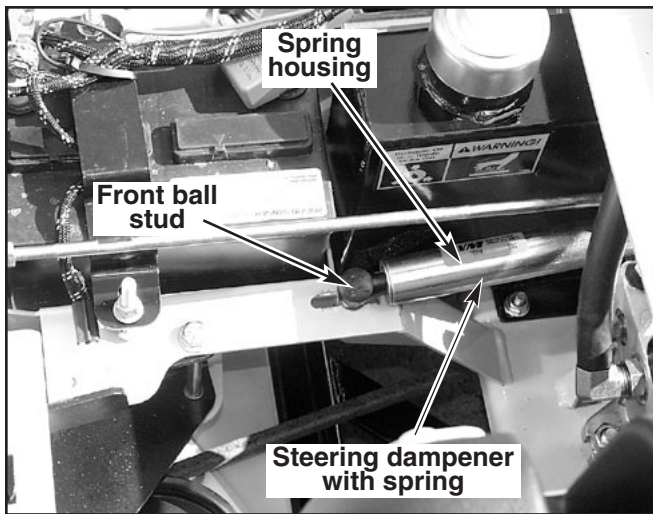


Figure 11-22

Control lever stops

The control lever stops (Fig. 11-21) are designed to do two things: First, and most important, they must keep the pumps from bottoming out internally. Secondly, the stops may be adjusted to help drive straight when the control levers are pushed forward against the stops.

To keep the pumps from bottoming out internally use the following procedure:

1. To make the first adjustment the tractor engine must NOT be running.
2. Check to make sure the control levers are against the stops before the pumps are bottomed out internally.
To do this, gently and slowly move the control levers forward and feel if there is some resistance on the pump lever before the control levers hit the stops. Check one side at a time. If you sense that the pump arms are stopping the forward motion of the control arms, loosen the jam nut on the adjustable stop of the corresponding side and turn the stop (set screw) inward to stop the control levers slightly before the pump bottoms out. Lock in place when the adjustment is correct by re-tightening the jam nut.
3. Do this for each side.

To adjust the stops for driving straight when control levers are against the stops during operation:

1. Determine which drive tire is rotating too fast when both control levers are against the stops. Then stop the tractor and loosen the lock nut on the side which is rotating too fast and turn the stop (set screw) inward to stop the control lever sooner. Tighten the lock nut on the stop and test again. Repeat this procedure until unit drives straight.

NOTE: Since this is a hydrostatic drive, variables such as temperature of oil, efficiency of pumps and motors, tire pressure etc. may effect the consistency of the ability to rely on the stops to drive straight without the operator making minor steering adjustments with the control arms.

Steering dampener

This steering dampener (Fig. 11-22) is spring loaded to return the control levers to the neutral position from the reverse position. This gives the operator a sense of neutral during operation.

To set the steering dampeners in the correct operating position follow these steps:

1. Place the control lever in the neutral position.
2. Loosen the steering dampener's front ball stud.
3. Pull the dampener spring housing pass the point that the internal spring is engaged.
4. Release the dampener spring housing and allow the internal spring to bring the housing back to the neutral position.
5. Tighten the nut on the steering dampener's front ball stud.

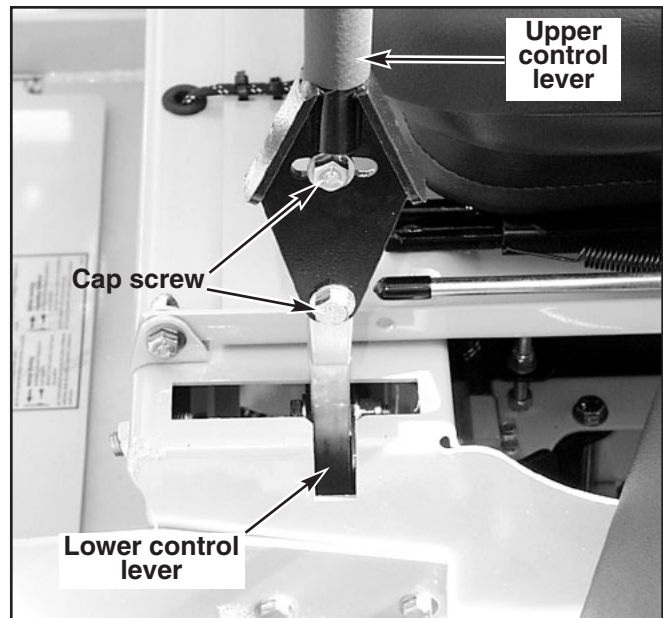


Figure 11-23

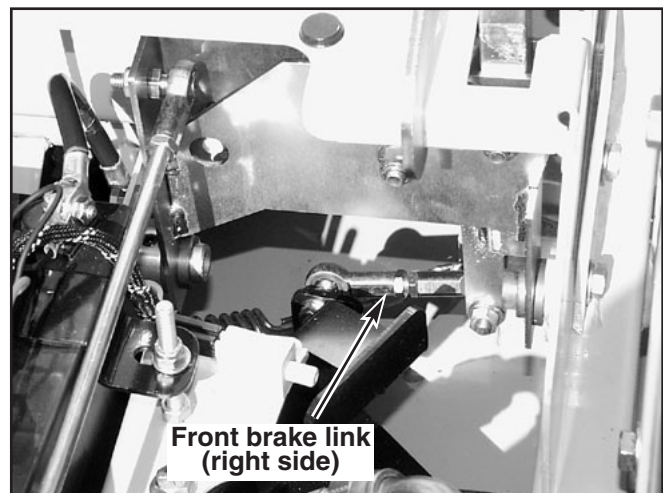


Figure 11-24

Control lever adjustment

The control levers can be adjusted for operator comfort. By loosening the cap screws that attaches the upper control lever to the lower lever (Fig. 11-23), the upper control lever can be pivoted to fit the operator's personal preference.

The control levers should be adjusted so that they align with each other when in the neutral position.

Park brake adjustment

Occasionally check the park brakes and adjustment using the following method:

1. Position the control levers in the neutral position. Disengage the deck clutch.



WARNING: Never work under the machine or attachment unless it is safely supported with jack stands. Make certain machine is secure when it is raised and placed on the jack stands. The jack stands should not allow the machine to move when the engine is running and the drive wheels are rotating. **Use only certified jack stands.** Use only appropriate jack stands, with a minimum weight rating of 2000 pounds to block the unit up. Use in pairs only. Follow the instructions supplied with the vehicle stands

NOTE: The front brake link is not adjustable. Fig. 11-24

2. Raise and block the tractor up so the drive wheels are off of the floor.
3. Open the hydraulic pump's bypass valve (Fig. 11-25), on the side that is being adjusted, by turning bypass valve counter clockwise one-half to one revolution. The valve stems on each hydraulic pump are located near the top and are identified as a hex stud.
4. Rotate the tire. The tire should rotate. Remember hydraulic oil resistance will prevent the tire from rotating freely even with the bypass valves open. There should be no resistance from the brakes at this point.
5. Move the control lever to where it is just inside (1/8") the park brake slot. Fig. 11-26
NOTE: When the control lever is against the outside edge of the slot, the brakes should **not** be engaged. Fig. 11-27
6. Rotate the tire. If the brake is adjusted properly the tire will still rotate but friction will start to become noticeable here. However, if no brake resistance is noticed, the brake needs adjusted as follows:
7. Loosen the brake linkage jam nuts. Fig. 11-28
8. Rotate the tire and at the same time rotate the turnbuckle to shorten the length of the brake linkage to increase the brake pressure. When you feel the brake begin to engage, stop adjusting the turnbuckle. Re-tighten the jam nuts on the turnbuckle.
9. Place the control lever in the park brake slot (Fig. 11-29). The tire should not rotate when the control lever is in the park brake position.
10. Place the control lever in the neutral position. The tire should rotate freely.
11. Close the hydraulic pump's bypass valve.
12. Repeat steps 3 thru 11 for the other side.
13. Remove the jack stands and lower the unit. It is now ready to operate.

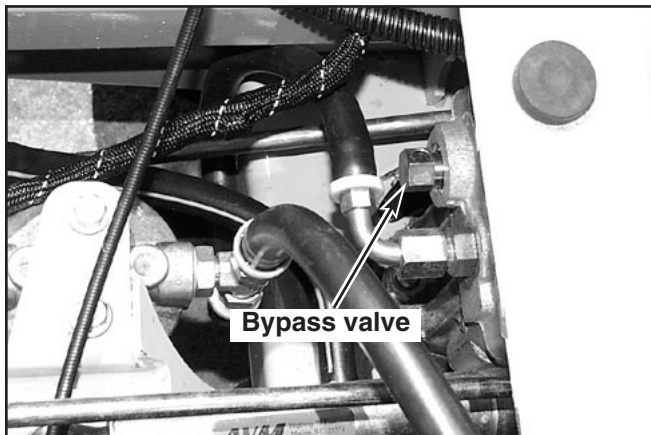


Figure 11-25

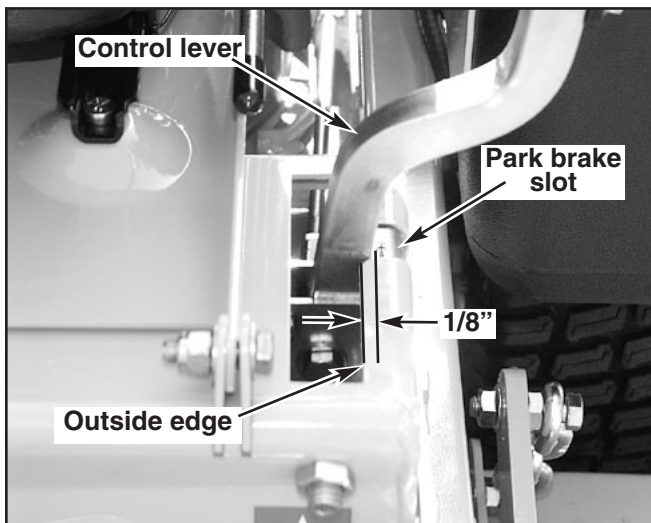


Figure 11-26

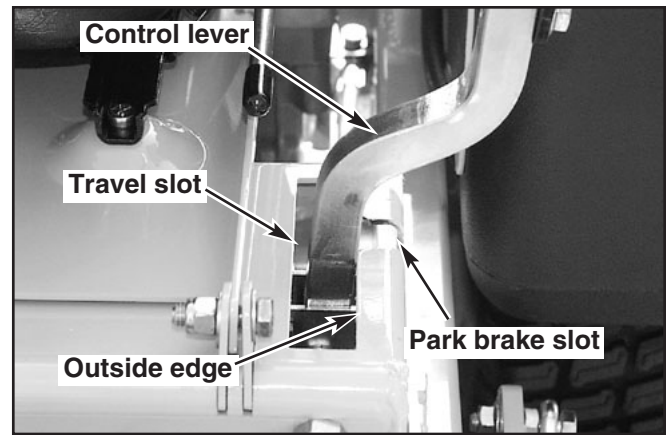


Figure 11-27

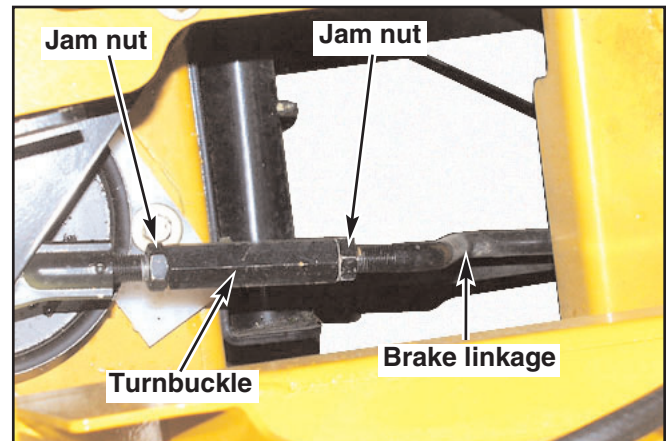


Figure 11-28

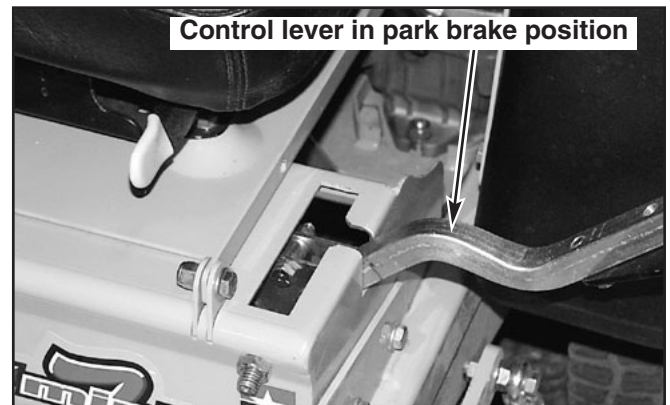


Figure 11-29

Hydraulic pump belt adjustment

The pump drive belt tension remains constant by means of a tension idler and spring (Fig. 11-30). There is no tension adjustment of this belt.

NOTE: Replace the belt every 400 hours or every two (2) years whichever comes first.



WARNING: If the pump belt fails, loss of control will occur especially when operating on a slope. If you lose steering control while operating the machine, place the steering control levers in the park brake position immediately. Inspect the machine and involve your Hustler dealer to resolve the problem before continuing to operate.

Deck drive belt adjustment

The spindle belt tension remains constant by means of a tension idler and spring (Fig. 11-31). The spring tension should be such that the belt does not slip under normal operating load conditions, assuming the belt is not

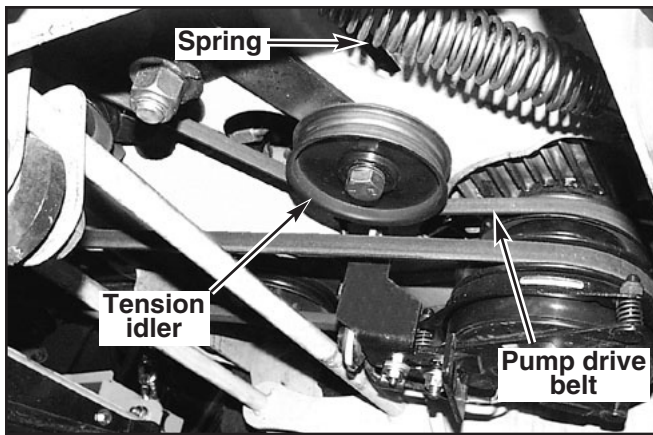


Figure 11-30



Figure 11-33

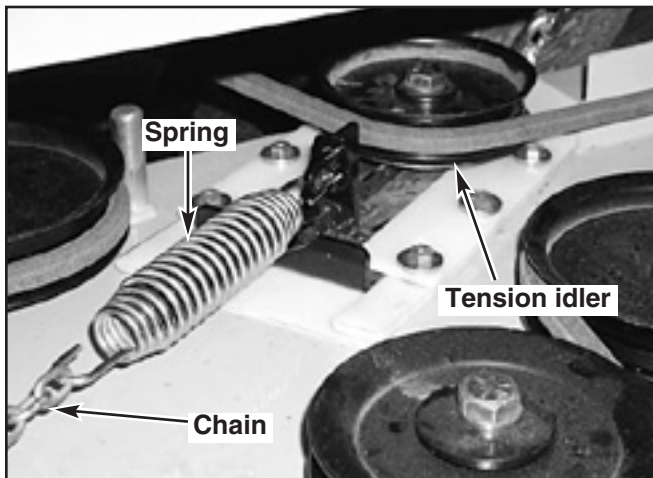


Figure 11-31

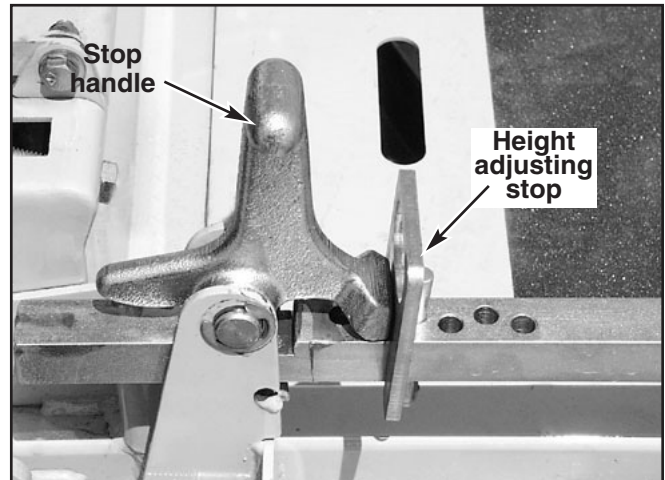


Figure 11-34

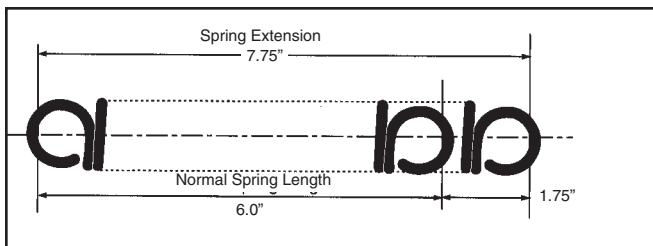


Figure 11-32

excessively worn or damaged. As belt stretches and wears in, adjustment may become necessary. To increase belt tension, move the spring chain one (or more) link(s) at the anchor bracket (Fig. 11-31). Installed spring length should be 7.75" \pm .3" (19.7 cm \pm .76 cm) originally with adjustments of .60" (15.2mm) per chain link. (Fig. 11-32)

IMPORTANT: Do not over tension the spring to compensate for a badly worn belt or pulley.

Engine RPM setting

The Super Mini Z is designed so that the engine will run at 3600 rpm static pump load only. At this speed the hydraulic pumps are running at their maximum rated speed.

Deck leveling and height adjustment

The mower deck has three areas that may need to be checked and adjusted periodically. Before considering any mower deck leveling adjustments, check that the tire air pressure is within the specified range.

Deck level adjustments

Leveling the deck must be done in the following manner and order:

1. Check tire pressures to make certain they are properly inflated before

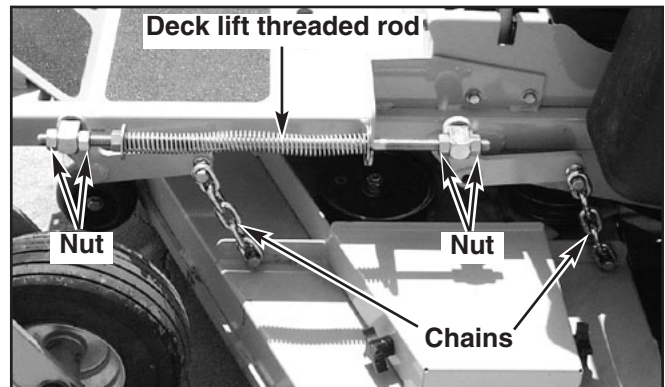


Figure 11-35

starting to level deck. The recommended pressures are as follows:
 Drive wheels tire pressure 8 - 10 psi
 Gauge wheels tire pressure 8 - 10 psi



WARNING: Stop engine. Make sure deck clutch switch is in the down (OFF) position. Place control levers in the brake position before leaving machine.

2. Park the unit on a flat surface.
3. Raise deck and place 3" of blocking under all 4 corners of the deck (Fig. 11-33). This will set the cutting height at 3 1/4". **NOTE:** Back of deck will automatically be set 1/4" higher.
4. Set cutting height at 3 1/4" in the height indicator by placing the height adjusting stop in the 3" hole, and turning the height stop so that the flat side is against the stop handle. Fig. 11-34
5. Clamp the height adjusting stop against the stop handle (11-34).

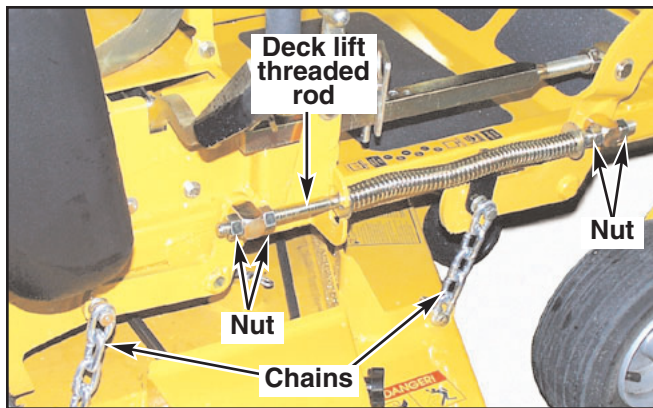


Figure 11-36

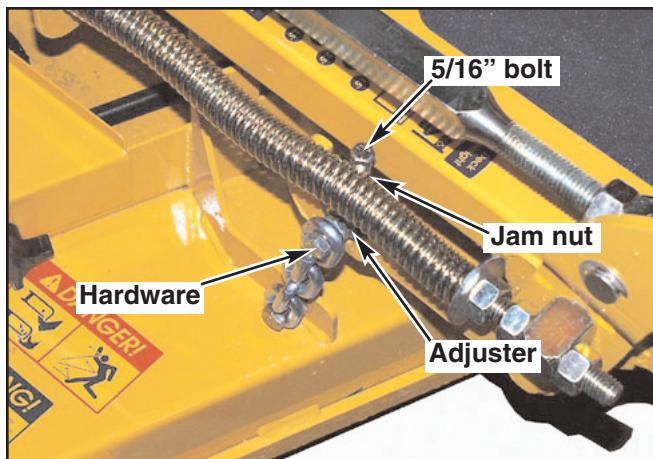


Figure 11-37

This will assure that the height will not move during the setting process. Otherwise, spring pressure from the deck lift springs will tend to pull the stop away from the handle.

6. Loosen all nuts on the deck lift threaded rods, and the hardware on the adjuster (on the right front), until **all** the deck lift chains are loose, **and** the deck is sitting tightly on all four blocks. Fig. 11-35, 11-36, 11-37
7. Loosen the two nuts on the front of height indicator so that the foot pedal is free. Fig. 11-38
8. Start the leveling process on the **left front** of the tractor.
9. Set the amount of threads protruding on the deck lift rod from the lift block at approximately 1". Fig. 11-39
10. Jam both nuts against the block.
11. Push or pull on the deck lift foot pedal until the chain on the left front just becomes tight, making sure that the deck stays tight against the 3" block.
12. While keeping the chain tight, tighten the nuts against the deck lift block on the height indicator rod. Fig. 11-38
13. Go to the **right front** of the tractor.
14. Loosen the 5/16" jam nut on the adjuster lift chain (11-37), and back the adjuster bolt out to allow the adjuster to move up and down freely.
15. Be sure that adjuster is free to move up and down.
16. Tighten the adjuster bolt until the chain just becomes tight, making sure that the deck stays tight against the 3" block.
17. Tighten the adjuster bolt jam nut to prevent the adjuster bolt from moving. Fig. 11-37

18. Tighten the hardware holding the chain and adjuster onto the deck lift arm.
19. Go to the **right rear** of the tractor.
20. Make sure that there is still slack in the chain. If not, loosen the two nuts on the block holding the threaded rod until there is slack in the deck lift chain. Fig. 11-36
21. Tighten the appropriate nut until the chain just becomes tight, making sure that the deck stays tight against the 3" block.
22. Tighten the other nut on the opposite side of the block, and jam them tightly together against the block.
23. Go to the **left rear** of the tractor.
24. Make sure that there is still slack in the chain. If not, loosen the two nuts on the block holding the threaded rod until there is slack in the deck lift chain. Fig. 11-35
25. Tighten the appropriate nut until the chain just becomes tight.
26. Tighten the other nut on the opposite side of the block, and jam them tightly together against the block.
27. Compress the deck lift assist springs so that there is 1" of space between the front nut and on the spring and the rear nut on the deck lift block (Fig. 11-39). Typical both sides.
28. When completed, all chains will be tight, and deck cutting height will be set to the deck height indicator.

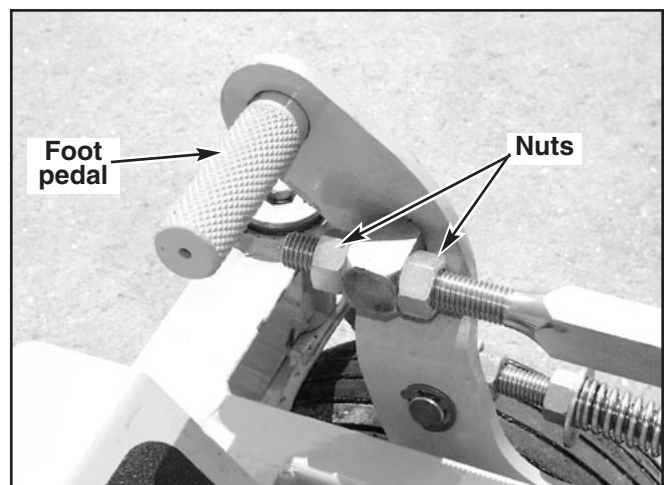


Figure 11-38

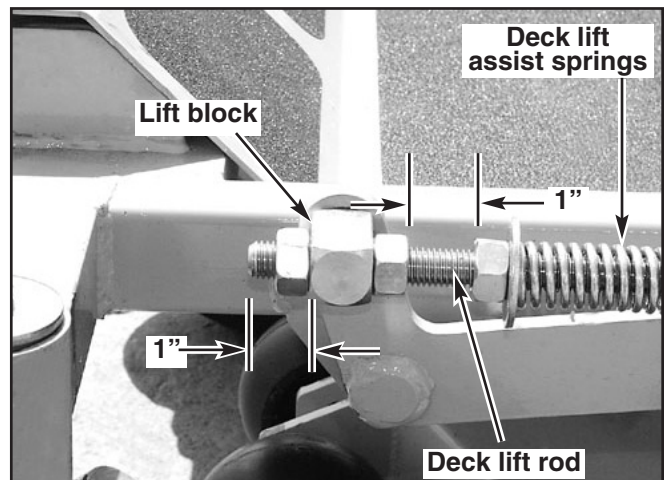


Figure 11-39

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